| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1 | NGIRI-2024-26725 | Abasyn University | Peshawar | Computer Science | 'Driver Drowsiness Detection and Alerting System ' |
| 2 | NGIRI-2024-26737 | Abasyn University | Peshawar | Computer Science | 'Hybrid centralized voting system ' |
| 3 | NGIRI-2024-26872 | Abasyn University | Peshawar | Computer Science | 'AI Traffic Warden' |
| 4 | NGIRI-2024-27951 | Abasyn University | Peshawar | Computing and Technology | 'TechBuilt Open School' |
| 5 | NGIRI-2024-28025 | Abasyn University | Peshawar | Computer Science | 'Plant disease Detection Using Image Processing and Machine Learning Techniques' |
| 6 | NGIRI-2024-28155 | Abasyn University | Peshawar | Software Engineering | 'Automating Electrical Distribution in Apartment Complex using IoT Systems' |
| 7 | NGIRI-2024-25342 | Abbottabad University of Science And Technology | Havelian | Computer Science | 'FYP Management Portal web based application ' |
| 8 | NGIRI-2024-25365 | Abbottabad University of Science And Technology | Havelian | Software Engineering | 'ARTIFY ' |
| 9 | NGIRI-2024-30046 | Abbottabad University of Science And Technology | Havelian | Information Technology | 'Construction Tracking App ' |
| 10 | NGIRI-2024-30055 | Abbottabad University of Science And Technology | Havelian | Computer Science | 'Parental Controls Application for Mobile' |
| 11 | NGIRI-2024-30061 | Abbottabad University of Science And Technology | Havelian | Computer Science & IT | 'Smart drawing for Autistic kids ' |
| 12 | NGIRI-2024-30127 | Abbottabad University of Science And Technology | Havelian | Computer Science | 'RetailFlow (Online Order booking Application)' |
| 13 | NGIRI-2024-30174 | Abbottabad University of Science And Technology | Havelian | Computer Science | 'Pak Lawyers Hub' |
| 14 | NGIRI-2024-23531 | Air University | Kamra | Computer Science | 'Image analysis for steganography' |
| 15 | NGIRI-2024-23582 | Air University | Kamra | Computer Science | 'Smart Helmet for accident detection and timely aid provision' |
| 16 | NGIRI-2024-23654 | Air University | Islamabad | Computer Science | 'Online Child Abuse Detection In Chats Using Natural Language Processing' |
| 17 | NGIRI-2024-23748 | Air University | Islamabad | Electrical Engineering | 'AUTONOMOUS DELIVERY DRONE' |
| 18 | NGIRI-2024-23766 | Air University | Islamabad | Computer Science | 'Cyber Quest' |
| 19 | NGIRI-2024-23773 | Air University | Islamabad | Mechatronics Engineering | 'Smart Chair for Patient Health Monitoring and Management' |
| 20 | NGIRI-2024-23820 | Air University | Islamabad | Computer Engineering | 'EEG Based Brain Controlled Keypad,Home atomation, Devices and Robot ' |
| 21 | NGIRI-2024-24037 | Air University | Islamabad | Electrical Engineering | 'Solar Powered Intelligent Stick for Navigating Visually Impaired Persons' |
| 22 | NGIRI-2024-24117 | Air University | Islamabad | Software Engineering | 'Smart Car Parking ' |
| 23 | NGIRI-2024-24276 | Air University | Islamabad | Mechanical Engineering | 'Design and Development of a Smart Agrobot for Automated Weed Detection and Eradication Using AI Vision System and Robotics' |
| 24 | NGIRI-2024-24287 | Air University | Islamabad | Electrical/Electronics Engineering | 'Magnetic Levitation based technology for cars and trains' |
| 25 | NGIRI-2024-24312 | Air University | Islamabad | Computer Science | 'PakReliefRadar' |
| 26 | NGIRI-2024-24757 | Air University | Islamabad | Biomedical Engineering | '3D printed Omnidirectional Soft Actuator for Biomedical Applications' |
| 27 | NGIRI-2024-25453 | Air University | Kamra | Electrical Engineering | 'Machine learning based modeling of power converter ' |
| 28 | NGIRI-2024-25552 | Air University | Islamabad | Electrical Engineering | 'Water Distillation Plant Using Concentrated Solar ' |
| 29 | NGIRI-2024-25878 | Air University | Islamabad | Mechanical Engineering | 'Design and Characterization of Tandem Wing UAV' |
| 30 | NGIRI-2024-26188 | Air University | Kamra | Electrical Engineering | 'Computer Vision-based Assistance System for the Visually Impaired People' |
| 31 | NGIRI-2024-26249 | Air University | Kamra | Electrical Engineering | An IoT integrated Solar Power Car Washing Station with Water recycling |
| 32 | NGIRI-2024-26676 | Air University | Kamra | Mechanical Engineering | 'Design and development of a pick and place serial manipulator for a flexible manufacturing cell' |
| 33 | NGIRI-2024-26728 | Air University | Kamra | Mechanical Engineering | 'Design and development of magnetically coupled vectoral thruster for unmanned underwater vehicles Phase II' |
| 34 | NGIRI-2024-26877 | Air University | Islamabad | Biomedical Engineering | 'EGG MONITORING DEVICE WITH APP INTEGRATION FOR GASTRIC ARRHYTMIAS DETECTION' |
| 35 | NGIRI-2024-26935 | Air University | Kamra | Mechanical Engineering | 'design and development of manipulator based on IoT' |
| 36 | NGIRI-2024-26982 | Air University | Multan | Computer Science | Smart Home |
| 37 | NGIRI-2024-27049 | Air University | Islamabad | Mechatronics Engineering | 'Design and Fabrication of Robovalet' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 38 | NGIRI-2024-27226 | Air University | Islamabad | Biomedical Engineering | 'Developing a Compact and Affordable 6-lead Patch ECG for Arrythmia Detection in Home Healthcare' |
| 39 | NGIRI-2024-27271 | Air University | Islamabad | Electrical Engineering | 'Cost-Effective Emergency Ventilator with Body Essentials Measurement ' |
| 40 | NGIRI-2024-27345 | Air University | Islamabad | Biomedical Engineering | 'EMG Monitored Electrical Stimulation Based Drug Delivery System' |
| 41 | NGIRI-2024-27357 | Air University | Kamra | Mechanical Engineering | 'Development of Inspection Drone for SHM using ML and NDT' |
| 42 | NGIRI-2024-27666 | Air University | Islamabad | Mechatronics Engineering | 'Automatic Solar Panel Cleaning System' |
| 43 | NGIRI-2024-27681 | Air University | Islamabad | Mechanical Engineering | 'CV-based Path Planning and Motion Control of a Prototype Ground Based Robot' |
| 44 | NGIRI-2024-27759 | Air University | Multan | Computer Science | 'Decentralized Freelance Platform ' |
| 45 | NGIRI-2024-27801 | Air University | Multan | Computer Science | 'SECURE HOME' |
| 46 | NGIRI-2024-27967 | Air University | Kamra | Electrical Engineering | 'Machine Learning Based Controller Design of Power Electronic Converters for Microgrid Application' |
| 47 | NGIRI-2024-28046 | Air University | Islamabad | Mechatronics Engineering | 'Design of high-rise faÃ§ade cleaning robot' |
| 48 | NGIRI-2024-28751 | Air University | Kamra | Computer Science | 'IOT BASED GAS LEAKAGE DETECTION SYSTEM' |
| 49 | NGIRI-2024-28898 | Air University | Kamra | Computer Science | 'OCR-Based Conversion to Overcome Learning Disabilities using Deep Learning' |
| 50 | NGIRI-2024-29764 | Air University | Multan | Computer Science | 'Real-time Route Tracking System for Aumc.' |
| 51 | NGIRI-2024-29398 | Al-Hamd Islamic University | Islamabad | Computer Science | 'Hair and Scalp Disease detection system ' |
| 52 | NGIRI-2024-29546 | Al-Hamd Islamic University | Islamabad | Computer Science | 'Understanding Byzantine Fault Tolerance Models in Consensus Algorithms: A Study of PoW, PoS, PoA, and PoV' |
| 53 | NGIRI-2024-30193 | Al-Hamd Islamic University | Quetta | Computer Science | 'Smart School Security System Using IOT ' |
| 54 | NGIRI-2024-30210 | Al-Hamd Islamic University | Quetta | Computer Science | 'IOT Based Smart Waste Management System using Arduino' |
| 55 | NGIRI-2024-23388 | Allama Iqbal Open University | Main | Computer Science | 'Design and Development of Quadcopter base Crop Harvester.' |
| 56 | NGIRI-2024-25403 | Allama Iqbal Open University | Main | Computer Science | 'Gas Leakage Detection System' |
| 57 | NGIRI-2024-26726 | Allama Iqbal Open University | Main | Computer Science | 'PC watchtower ' |
| 58 | NGIRI-2024-24427 | Bacha Khan University | Main Campus | Computer Science | 'Coal Mine Safety Monitoring and Alerting System' |
| 59 | NGIRI-2024-29096 | Bacha Khan University | Main Campus | Computer Science | 'IoT Based Safe Factory' |
| 60 | NGIRI-2024-29500 | Bacha Khan University | Main Campus | Computer Science | 'IoT Based Drinking Water Quality Monitoring' |
| 61 | NGIRI-2024-23445 | Bahauddin Zakariya University | Main | Information Technology | 'Tutor Finder App ' |
| 62 | NGIRI-2024-24830 | Bahauddin Zakariya University | Main | Mechanical Engineering | 'Design and Development of a CPM Rehabilitation System for Enhanced Post-Surgical Joint Recovery of knee joint' |
| 63 | NGIRI-2024-24994 | Bahauddin Zakariya University | Main | Computer Engineering | 'Elevate Your Home with IoT and Wi-Fi-Based Innovation' |
| 64 | NGIRI-2024-25860 | Bahauddin Zakariya University | Main | Computer Engineering | 'SignScribe : Decoding ASL Finger spelling using Machine Learning ' |
| 65 | NGIRI-2024-23278 | Bahria University | Islamabad | Software Engineering | 'IoT Based Smart Waste Management System' |
| 66 | NGIRI-2024-23312 | Bahria University | Islamabad | Computer Engineering | 'SignToText' |
| 67 | NGIRI-2024-23328 | Bahria University | Islamabad | Electrical Engineering | 'Specific Emitter Identification' |
| 68 | NGIRI-2024-23344 | Bahria University | Islamabad | Electrical/Electronics Engineering | 'AI on Edge FPGA based Neural Network Inference ' |
| 69 | NGIRI-2024-23378 | Bahria University | Islamabad | Computer Engineering | 'Personality assessment through interactive engagement ' |
| 70 | NGIRI-2024-23427 | Bahria University | Lahore | Information Technology | 'Personality Traits Assessment ' |
| 71 | NGIRI-2024-23640 | Bahria University | Islamabad | Electrical Engineering | 'IoT Based Smart Helmet with Helmet to Helmet Communication' |
| 72 | NGIRI-2024-23683 | Bahria University | Islamabad | Electrical Engineering | 'Artificial Intelligence driven approach for Voltage Source Inverter in Renewable Energy Applications.' |
| 73 | NGIRI-2024-23701 | Bahria University | Islamabad | Electrical Engineering | 'Blockchain Based Smart Metering System' |
| 74 | NGIRI-2024-23711 | Bahria University | Karachi | Electrical Engineering | 'IoT Based Solar Powered Atmospheric Freshwater Generator' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| | | | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | |
| | | | | **Shortlisted FYPs** | |
| 75 | NGIRI-2024-23736 | Bahria University | Karachi | Information Technology | 'Missings Finder' |
| 76 | NGIRI-2024-23805 | Bahria University | Islamabad | Engineering and Sciences | 'Radio Resource Management in V2X (Vehicle to Everything ) Networks for 5G and beyond Communication' |
| 77 | NGIRI-2024-23929 | Bahria University | Karachi | Electrical Engineering | ' AI-BASED PLANT MONITORING SYSTEM FOR IDENTIFICATION OF DISEASES USING CDPR' |
| 78 | NGIRI-2024-23930 | Bahria University | Karachi | Electronics Engineeering | 'Design and development of hybrid exoskeletal glove' |
| 79 | NGIRI-2024-24036 | Bahria University | Karachi | Electrical Power Engineering | 'Iot Enabled Diesel Generator Monitoring and Control' |
| 80 | NGIRI-2024-24362 | Bahria University | Karachi | Computer Engineering | 'IoT Based Smart Trolley System' |
| 81 | NGIRI-2024-24364 | Bahria University | Islamabad | Computer Engineering | 'Arm Motion Replication Using EMG' |
| 82 | NGIRI-2024-24647 | Bahria University | Karachi | Computer Engineering | 'Vertical Glass Cleaning Robot for High Rised Buildings ' |
| 83 | NGIRI-2024-24835 | Bahria University | Lahore | Computer System | 'Deep Leaf: AI-Powered Crop Disease Detection' |
| 84 | NGIRI-2024-24836 | Bahria University | Lahore | Computer Science & IT | 'FaceCast Vote: An innovative e-voting system' |
| 85 | NGIRI-2024-25087 | Bahria University | Karachi | Information Technology | 'CAMPUS TECH MATE' |
| 86 | NGIRI-2024-25209 | Bahria University | Lahore | Computer Science | 'Respiratory Disease Diagnosis and Management TOOL (RDM)' |
| 87 | NGIRI-2024-25369 | Bahria University | Karachi | Computer Science | 'AI Recruitment Assistant For HR Manager' |
| 88 | NGIRI-2024-25589 | Bahria University | Lahore | Computer Science | 'Predicting cardiovasvular diseases' |
| 89 | NGIRI-2024-25671 | Bahria University | Karachi | Computer Science | 'IRIS AI Based Surveillance System' |
| 90 | NGIRI-2024-26173 | Bahria University | Lahore | Computer Science & IT | 'Digital Disease Diagnosis' |
| 91 | NGIRI-2024-26174 | Bahria University | Lahore | Computer Science & IT | 'Autism Companion: Chat-based Support' |
| 92 | NGIRI-2024-26212 | Bahria University | Islamabad | Computer Science | 'NeuroScanAI: Segmentation and 3D Reconstruction of Medical Images for Immersive Neuro Analysis' |
| 93 | NGIRI-2024-26255 | Bahria University | Karachi | Computer Science & IT | 'Stitch Ease' |
| 94 | NGIRI-2024-26329 | Bahria University | Islamabad | Software Engineering | 'Visual Studio Fault prediction Addon' |
| 95 | NGIRI-2024-26336 | Bahria University | Lahore | Computer Science | 'Interactive Educational Application in Odontogenic Oral Pathology' |
| 96 | NGIRI-2024-26365 | Bahria University | Lahore | Information Technology | 'Medi Assist (Web base application and recommendation system)' |
| 97 | NGIRI-2024-26397 | Bahria University | Lahore | Computer Science & IT | 'Web Application firewall Development Using Deep Learning' |
| 98 | NGIRI-2024-26409 | Bahria University | Lahore | Computer Science | 'Investigation os Machine Learning Methods for Alzheimer and Mental Health ' |
| 99 | NGIRI-2024-26412 | Bahria University | Lahore | Information Technology | 'GILGITGHOOMO' |
| 100 | NGIRI-2024-26455 | Bahria University | Karachi | Information Technology | 'Quick Check Shop Ease' |
| 101 | NGIRI-2024-26518 | Bahria University | Islamabad | Software Engineering | 'Story Gennie' |
| 102 | NGIRI-2024-26554 | Bahria University | Karachi | Electrical | 'EV NAV: Electric Vehicle Smart Companion App' |
| 103 | NGIRI-2024-26555 | Bahria University | Islamabad | Computer Science | 'EYE TRACKER FOR FORMATIVE ASSESSMENTS' |
| 104 | NGIRI-2024-26589 | Bahria University | Islamabad | Computer Engineering | 'lungs disease detection system' |
| 105 | NGIRI-2024-26775 | Bahria University | Karachi | Electrical Engineering | 'Automated Traffic Control System For Emergency Vehicle' |
| 106 | NGIRI-2024-26907 | Bahria University | Lahore | Information Technology | 'Quickart' |
| 107 | NGIRI-2024-27033 | Bahria University | Islamabad | Software Engineering | 'CricAI' |
| 108 | NGIRI-2024-27150 | Bahria University | Islamabad | Computer Science & IT | 'SMART PREPAID ELECTRICITY METER' |
| 109 | NGIRI-2024-27309 | Bahria University | Karachi | Information Technology | 'IoT BASED REAL TIME BODY VITALS MONITORY' |
| 110 | NGIRI-2024-28363 | Bahria University | Islamabad | Computer Science | 'CrystalEye Data Analysis Tool' |
| 111 | NGIRI-2024-28895 | Bahria University | Islamabad | Computer Science | 'Virtual Diabetologist' |
| 112 | NGIRI-2024-29342 | Bahria University | Karachi | Electrical Engineering | 'A unitized charging and discharging of Battery management system' |

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|------|----------|------------|--------|------------|-----------|
| 113 | NGIRI-2024-25045 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Civil Engineering | 'Implementation of Smart Irrigation System Design and Sustainable Water Management for Baluchistan' |
| 114 | NGIRI-2024-26988 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Electronics Engineering | 'Automatic Destructive Pest Control System for Agriculture Field ' |
| 115 | NGIRI-2024-27462 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Electronics Engineering | 'Development of Advanced Health Monitoring System Using Modern Technology' |
| 116 | NGIRI-2024-28107 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Civil Engineering | 'To produce porous concrete by using waste marble stones ' |
| 117 | NGIRI-2024-28131 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Computer System Engineering | 'Real-time vehicle Overspeeding,plate recognition & facial recognition by using AI powered analytical tools for Buetk' |
| 118 | NGIRI-2024-28170 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Mechanical Engineering | 'Design of Archimedes Micro Screw Power Geneator for Mula River Khuzdar' |
| 119 | NGIRI-2024-28213 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Computer System Engineering | 'Water surface waste cleaning machine controlled by smart phone' |
| 120 | NGIRI-2024-28231 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Energy System Engineering | 'Hybrid Solar Cooker' |
| 121 | NGIRI-2024-28350 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Software Engineering | 'Development of a voice assistant for Urdu language using Natural Language Processing |
| 122 | NGIRI-2024-28493 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Electrical Engineering | 'Design a PID Controller for VTOL System' |
| 123 | NGIRI-2024-28744 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Civil Engineering | 'Application of Spring/Link Elements to Determine the Response of Modular Steel Buildings Under Lateral Loading' |
| 124 | NGIRI-2024-28807 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Software Engineering | 'Brain-Controlled Wheelchair using Macrotellect BrainLink Lite EEG Headset V2.0.' |
| 125 | NGIRI-2024-28810 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Computer System Engineering | 'IOT Based Smart Mirror' |
| 126 | NGIRI-2024-28937 | Balochistan University of Engineering and Technology, Khuzdar | Khuzdar | Computer System Engineering | 'AI Mentor' |
| 127 | NGIRI-2024-24473 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Computer Engineering | 'Smart Thermoelectric Air Conditioner (STEAC)' |
| 128 | NGIRI-2024-24492 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Information Technology | 'SignCom: Revolutionizing Video Communication with Specially-Abled People.' |
| 129 | NGIRI-2024-24743 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Computer Engineering | 'An Efficient Lawn Watering System ' |
| 130 | NGIRI-2024-25032 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Computer Engineering | 'Automated Plastic Material Sorting System' |
| 131 | NGIRI-2024-25073 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Electronics Engineering | 'Skin Disease Detection Using Deep Learning Technique' |
| 132 | NGIRI-2024-25261 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Computer Engineering | 'Applying Sequential Model for Currency Price Predictions' |
| 133 | NGIRI-2024-25489 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Electronics Engineering | 'Human Curiosity inspired learning of Exploratory Algorithim in mobile robot with depth images' |
| 134 | NGIRI-2024-26505 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Software Engineering | 'DEALOCK Mobile Application that Connects Entrepreneurs and Investors ' |
| 135 | NGIRI-2024-26603 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Software Engineering | 'Smart Face Recognition System for Enhanced Security and Access Control' |
| 136 | NGIRI-2024-26998 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Computer Science | 'Real time emotion detection system using facial features for e based learning platforms' |
| 137 | NGIRI-2024-28091 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Software Engineering | 'MUSIC BEAT DETECTION IN INDIAN CLASSICAL MUSIC ' |
| 138 | NGIRI-2024-28826 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Electrical Engineering | 'A comparative analysis of MPPT algorithms for the climatic conditions of Quetta, Pakistan.' |
| 139 | NGIRI-2024-29209 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Information Technology | 'ShiftChat' |
| 140 | NGIRI-2024-29330 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Information & Communication Technology | 'Noble Share Welfare' |
| 141 | NGIRI-2024-29804 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Electrical Engineering | 'Design of smart IOT based fruit Supply Chain. ' |
| 142 | NGIRI-2024-30005 | Balochistan Univiersity of Information Technology, Engineering & Management Sciences | Quetta | Information Technology | 'perishable items transportation' |
| 143 | NGIRI-2024-23500 | Beaconhouse National University | Lahore | Computer Science & IT | 'SocialSense' |
| 144 | NGIRI-2024-23529 | Beaconhouse National University | Lahore | Computer Science & IT | 'Thriftn ' |
| 145 | NGIRI-2024-23571 | Beaconhouse National University | Lahore | Computer Science & IT | 'Command Control Monitor ' |
| 146 | NGIRI-2024-23641 | Beaconhouse National University | Lahore | Computer Science & IT | 'ShotSense' |
| 147 | NGIRI-2024-23825 | Beaconhouse National University | Lahore | Computer Science | 'Phishing detection ' |
| 148 | NGIRI-2024-25423 | Beaconhouse National University | Lahore | Software Engineering | 'SaafPakistan' |
| 149 | NGIRI-2024-25459 | Beaconhouse National University | Lahore | Computer Science | 'BloodMate' |

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|---|---|---|---|---|---|
| 150 | NGIRI-2024-25882 | Beaconhouse National University | Lahore | Software Engineering | 'Crafty Canvas' |
| 151 | NGIRI-2024-26078 | Beaconhouse National University | Lahore | Computer Science | 'Demand Forecasting System' |
| 152 | NGIRI-2024-23991 | Begum Nusrat Bhutto Women University | Main | Information & Communication Technology | 'Emotion-Based Categorization of Song Lyrics Using Natural Language Processing' |
| 153 | NGIRI-2024-24131 | Begum Nusrat Bhutto Women University | Main | Information & Communication Technology | 'Deep Learning Based Auto Vegetables and Fruits Seeds Classification System' |
| 154 | NGIRI-2024-24621 | Begum Nusrat Bhutto Women University | Main | Information & Communication Technology | 'AI powered QEC support system for auto categorization of students feedback' |
| 155 | NGIRI-2024-27518 | Begum Nusrat Bhutto Women University | Main | Information & Communication Technology | 'Plant classification on the basis of leaves ' |
| 156 | NGIRI-2024-24993 | Benazir Bhutto Shaheed University | Karachi | Computer Science & IT | 'Markerless Interior Room Design' |
| 157 | NGIRI-2024-25068 | Benazir Bhutto Shaheed University | Karachi | Computer Science & IT | 'AI-based Makeup Suggestions for a particular type of makeup ' |
| 158 | NGIRI-2024-28494 | Benazir Bhutto Shaheed University | Karachi | Information Technology | 'Cash Panda' |
| 159 | NGIRI-2024-28512 | Benazir Bhutto Shaheed University | Karachi | Computer Science & IT | Stitchify NFC-INTEGRATED ONLINE TAILORING MANAGEMENT SYSTEM |
| 160 | NGIRI-2024-28627 | Benazir Bhutto Shaheed University | Karachi | Computer Science & IT | 'OCR URDU text convert into excel file' |
| 161 | NGIRI-2024-28710 | Benazir Bhutto Shaheed University | Karachi | Information Technology | 'Auto Vehicle App Using Machine Learning (ML)' |
| 162 | NGIRI-2024-23657 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Mechanical Engineering | 'Solar Powered Mechanical Ventilator For Emergency' |
| 163 | NGIRI-2024-23997 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Electrical Engineering | 'Design and development of pesticide agriculture drone system' |
| 164 | NGIRI-2024-26945 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Electrical Engineering | 'IOT Based Three Phase Transformer Health Monitoring System at Distribution Side ' |
| 165 | NGIRI-2024-27455 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Mechanical Engineering | 'Converting Waste Heat from Motorbike Silencers into Electricity By Using Thermoelectric Generator ' |
| 166 | NGIRI-2024-27465 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Mechanical Engineering | 'Development of Solar Powered Hydrphonic Production for Livestock applications' |
| 167 | NGIRI-2024-27485 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Mechanical Engineering | 'The small scale incerinator' |
| 168 | NGIRI-2024-28181 | Benazir Bhutto Shaheed University of Technology & Skill Development | Main | Electronics Engineeering | 'design and develop of smart air quality monitoring system' |
| 169 | NGIRI-2024-23753 | Capital University of Science and Technology | Main | Computer Science | 'Bridging Social Sentiment' |
| 170 | NGIRI-2024-23756 | Capital University of Science and Technology | Main | Computer Science | 'Ai based Farmer Marketplace' |
| 171 | NGIRI-2024-23880 | Capital University of Science and Technology | Main | Electrical Engineering | 'Autonomous Robotic Arm for Pick and Place object using real time Image Processing' |
| 172 | NGIRI-2024-23893 | Capital University of Science and Technology | Main | Electrical Engineering | 'EPIDSI - ENHANCED PALM IDENTIFICATION WITH DOCUMENT SCANNER IMAGERY' |
| 173 | NGIRI-2024-24412 | Capital University of Science and Technology | Main | Electrical Engineering | 'ARGO-SENSE NON-GREENHOUSE SMART HYDROPONICS SYSTEM FOR SOILLESS LEAFY VEGETABLE PLANTS' |
| 174 | NGIRI-2024-24514 | Capital University of Science and Technology | Main | Mechanical Engineering | 'Design and development of Back Support System for maintaining Spinal health' |
| 175 | NGIRI-2024-24934 | Capital University of Science and Technology | Main | Mechanical Engineering | 'Design and development of weed detection and removal agricultural robot ' |
| 176 | NGIRI-2024-24983 | Capital University of Science and Technology | Main | Mechanical Engineering | 'Design and fabrication of stair climbing mechanism to lift load over stairs' |
| 177 | NGIRI-2024-25125 | Capital University of Science and Technology | Main | Mechanical Engineering | 'Feedback Controlled Electromagnetic Vibration Damping of a Ferromagnetic Flexible Cantilever Beam' |
| 178 | NGIRI-2024-25263 | Capital University of Science and Technology | Main | Software Engineering | 'DataWhiz An Automated Tool for Data Analysis ' |
| 179 | NGIRI-2024-28054 | Capital University of Science and Technology | Main | Computer Science | 'Speech to knowledgebase convertor' |
| 180 | NGIRI-2024-28377 | Capital University of Science and Technology | Main | Computer Science | 'Speed Quest' |
| 181 | NGIRI-2024-29484 | Capital University of Science and Technology | Main | Electrical Engineering | 'Design and Implementation of a Wearable Device for Tremors Suppression' |
| 182 | NGIRI-2024-26720 | CECOS University of IT & Emerging Sciences | Peshawar | Civil Engineering | 'Prediction Model For contractor Bid price using Machine Learning Approach' |
| 183 | NGIRI-2024-26874 | CECOS University of IT & Emerging Sciences | Peshawar | Civil Engineering | 'INDUSTRY 4.0- INTEGRATED DIGITAL PLATEFORM SOLUTION FOR ALLEVIATING TYPICAL PROCUREMENT CHALLENGES IN CONSTRUCTION SECTOR OF PAKISTAN ' |
| 184 | NGIRI-2024-27105 | CECOS University of IT & Emerging Sciences | Peshawar | Mechanical Engineering | 'Design And Fabrication Of Smart Inter Venular Injecting And Vein Detection Device' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 185 | NGIRI-2024-27248 | CECOS University of IT & Emerging Sciences | Peshawar | Computer Science | 'WEB Three MarketPlace' |
| 186 | NGIRI-2024-27391 | CECOS University of IT & Emerging Sciences | Peshawar | Mechanical Engineering | 'Solar and wind powered range extender for EVs' |
| 187 | NGIRI-2024-27433 | CECOS University of IT & Emerging Sciences | Peshawar | Mechanical Engineering | 'Design And Fabrication Of Smart Helmet ' |
| 188 | NGIRI-2024-28125 | CECOS University of IT & Emerging Sciences | Peshawar | Bio-Informatics | 'In-Silico Identification of Potential therapeutic Agents Targeting markt cell Polyomauirus Large T Antigen using Ligand based Pharmacophorel polymauirus mapping & Virtual drugg ability screeningof MCPyV LTA and sTA Antigens: Understanding their Impact on Tumor Suppressor Pathways in Merkel Cell Carcinoma and pharmacophore mapping' |
| 189 | NGIRI-2024-28360 | CECOS University of IT & Emerging Sciences | Peshawar | Electrical Engineering | 'Arduino base low cost long range transmitter and receiver for UAVs ' |
| 190 | NGIRI-2024-28555 | CECOS University of IT & Emerging Sciences | Peshawar | Civil Engineering | 'Towards sustainable Construction Proposing Retrofit Measures to Transform CECOS University Building To Net Zero Energy and Net Zero Water Building' |
| 191 | NGIRI-2024-28566 | CECOS University of IT & Emerging Sciences | Peshawar | Bio-Informatics | 'â€œInsilico-predictions of Psoriasinâ€™s molecular interaction with benzoquinone and their respective pharmacodynamics' |
| 192 | NGIRI-2024-28733 | CECOS University of IT & Emerging Sciences | Peshawar | Civil Engineering | 'Comparative Analysis of Traditional and 4D scheduling ' |
| 193 | NGIRI-2024-29445 | CECOS University of IT & Emerging Sciences | Peshawar | Software Engineering | 'DreamHome ' |
| 194 | NGIRI-2024-29475 | CECOS University of IT & Emerging Sciences | Peshawar | Computer Science | 'Control Arduino car with Smart Phone\'s Bluetooth (flutter App) ' |
| 195 | NGIRI-2024-30168 | CECOS University of IT & Emerging Sciences | Peshawar | Computer Science | 'bilingual virtual doctor' |
| 196 | NGIRI-2024-23380 | City University of Science & Information Technology | Peshawar | Electrical Power Engineering | 'SMART FACE RECOGNITION BASED DOOR LOCK SYSTEM USING RESPBERRY PI ' |
| 197 | NGIRI-2024-23689 | City University of Science & Information Technology | Peshawar | Electrical Power Engineering | 'Implementation of Three Axis DIY CNC Router Machine' |
| 198 | NGIRI-2024-25729 | City University of Science & Information Technology | Peshawar | Electrical Engineering | 'Brain Controlled Human Computer Interaction ' |
| 199 | NGIRI-2024-25824 | City University of Science & Information Technology | Peshawar | Electrical Engineering | 'Plant Disease Detection Using Image Processing ' |
| 200 | NGIRI-2024-26447 | City University of Science & Information Technology | Peshawar | Computer Science | 'Bidding Bartering Buying and Selling Web Application' |
| 201 | NGIRI-2024-26539 | City University of Science & Information Technology | Peshawar | Computer Science | 'Public Health Point PHP' |
| 202 | NGIRI-2024-27211 | City University of Science & Information Technology | Peshawar | Computer Science | 'Green energy engineering Management system' |
| 203 | NGIRI-2024-27392 | City University of Science & Information Technology | Peshawar | Computer Science & IT | 'Guide Bot For Historical places in Pakistan ' |
| 204 | NGIRI-2024-23257 | COMSATS University of Information Technology | Attock | Computer Engineering | 'Optimizing Data Transfer in Hospitals using LiFi Technology' |
| 205 | NGIRI-2024-23299 | COMSATS University of Information Technology | Lahore | Computer Engineering | 'Machine Learning based Intrusion Detection System for Internet of Medical Things' |
| 206 | NGIRI-2024-23323 | COMSATS University of Information Technology | Sahiwal | Electrical Engineering | 'Efficient Control and Distribution of Solar Plant Output using PLCÂ Technology' |
| 207 | NGIRI-2024-23340 | COMSATS University of Information Technology | Abbottabad | Electrical Power Engineering | 'Footstep Power Generation' |
| 208 | NGIRI-2024-23437 | COMSATS University of Information Technology | Main | Electrical Engineering | 'Ai based sentry bot' |
| 209 | NGIRI-2024-23490 | COMSATS University of Information Technology | Attock | Computer Engineering | 'Intelligent Frozen Gait monitoring using Software Defined Radio Frequency Sensing' |
| 210 | NGIRI-2024-23543 | COMSATS University of Information Technology | Wah | Computer Science | 'Crop X' |
| 211 | NGIRI-2024-23635 | COMSATS University of Information Technology | Lahore | Computer Engineering | 'Integrating BCI and AI Models for Enhanced Robotic Arm Control' |
| 212 | NGIRI-2024-23644 | COMSATS University of Information Technology | Lahore | Computer Science | 'QUBIT' |
| 213 | NGIRI-2024-23779 | COMSATS University of Information Technology | Attock | Computer Engineering | 'Enhancing Airport security using Intelligent Non-contact Radio Frequency Sensing' |
| 214 | NGIRI-2024-23795 | COMSATS University of Information Technology | Attock | Electrical Engineering | 'Enhancing Home Comfort with an Artificial Intelligence based Environmental Control Model' |
| 215 | NGIRI-2024-23799 | COMSATS University of Information Technology | Sahiwal | Mechanical Engineering | 'Design and Investigation of Hybrid Solar Cooker ' |
| 216 | NGIRI-2024-23904 | COMSATS University of Information Technology | Lahore | Computer Engineering | 'Leveraging the Edge to Cloud Continuum for Scalable Machine Learning on Decentralized Data' |
| 217 | NGIRI-2024-23971 | COMSATS University of Information Technology | Lahore | Electrical/Electronics Engineering | 'Sentiment Detection Using IoT and Machine Learning' |
| 218 | NGIRI-2024-23993 | COMSATS University of Information Technology | Sahiwal | Electrical Engineering | 'Voice Controlled Humanoid Robot' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|------------|-----------|
| 219 | NGIRI-2024-24038 | COMSATS University of Information Technology | Abbottabad | Electrical/Electronics Engineering | 'AI based Brain State Recognition' |
| 220 | NGIRI-2024-24100 | COMSATS University of Information Technology | Abbottabad | Electrical Power Engineering | 'Self excited Induction Generator using dual rotor counter rotation principle' |
| 221 | NGIRI-2024-24111 | COMSATS University of Information Technology | Lahore | Electrical/Electronics Engineering | 'AI based Rice Cultivaton Robot' |
| 222 | NGIRI-2024-24140 | COMSATS University of Information Technology | Abbottabad | Electrical/Electronics Engineering | 'GSM Based Smart Circuit Breaker Integrated With Auto Recloser Mechanism' |
| 223 | NGIRI-2024-24386 | COMSATS University of Information Technology | Abbottabad | Electrical/Electronics Engineering | 'AI based Self Driving Car' |
| 224 | NGIRI-2024-24405 | COMSATS University of Information Technology | Wah | Electrical Engineering | 'Grid Fusion AI based SaaS technology for national grid system ' |
| 225 | NGIRI-2024-24591 | COMSATS University of Information Technology | Abbottabad | Electrical Power Engineering | 'Real Time Monitoring for Transformer based on IoT' |
| 226 | NGIRI-2024-24965 | COMSATS University of Information Technology | Attock | Computer Science | 'Developing A Chatbot To Increase Candidates Awareness' |
| 227 | NGIRI-2024-25111 | COMSATS University of Information Technology | Wah | Electrical Power Engineering | 'Design and Implementation of Plug and play voltage and frequency regulator' |
| 228 | NGIRI-2024-25130 | COMSATS University of Information Technology | Abbottabad | Computer Engineering | 'A Robust AI Based Crop Monitoring System for Pakistan agricultural land' |
| 229 | NGIRI-2024-25205 | COMSATS University of Information Technology | Wah | Civil Engineering | 'Prediction of Streamflow Using Artificial Intelligence' |
| 230 | NGIRI-2024-25298 | COMSATS University of Information Technology | Abbottabad | Electronics Engineeering | 'Medical Image Computing On Edge' |
| 231 | NGIRI-2024-25366 | COMSATS University of Information Technology | Abbottabad | Electrical Power Engineering | 'Design Analysis and Condition Monitoring of BLDC Motor using AI' |
| 232 | NGIRI-2024-25402 | COMSATS University of Information Technology | Attock | Electrical Engineering | 'Design and Development of Surveillance Spy Dog Robot' |
| 233 | NGIRI-2024-25405 | COMSATS University of Information Technology | Attock | Electrical Engineering | 'IoT Based Smart Irrigation System using Robotic Vehicle' |
| 234 | NGIRI-2024-25411 | COMSATS University of Information Technology | Wah | Electrical Engineering | 'Three Dimensional Numerically Controlled Motor Platform for measurement of magnetic field' |
| 235 | NGIRI-2024-25660 | COMSATS University of Information Technology | Main | Computer Engineering | 'Epilepsy Wearables and Fits Detection ' |
| 236 | NGIRI-2024-25683 | COMSATS University of Information Technology | Main | Computer Science | 'Signify' |
| 237 | NGIRI-2024-25706 | COMSATS University of Information Technology | Main | Computer Science | 'NextGen-ASM' |
| 238 | NGIRI-2024-25750 | COMSATS University of Information Technology | Wah | Computer Science | 'â€œFru-Vegi Invoice Genieâ€• The Automated Fruit vegetable invoice generator' |
| 239 | NGIRI-2024-25761 | COMSATS University of Information Technology | Abbottabad | Computer Science | 'Iot based cattle activity monitoring system predictive analytics ' |
| 240 | NGIRI-2024-25868 | COMSATS University of Information Technology | Lahore | Electrical Engineering | 'Design and Development of Electric Quad Bike' |
| 241 | NGIRI-2024-25942 | COMSATS University of Information Technology | Lahore | Computer Science | 'Archentra' |
| 242 | NGIRI-2024-26107 | COMSATS University of Information Technology | Lahore | Electrical Engineering | 'Railway Crossing Security System using artificial intelligence' |
| 243 | NGIRI-2024-26278 | COMSATS University of Information Technology | Sahiwal | Mechanical Engineering | 'Investigation of mechanical Properties of 3D printed parts using Stereolithography (SLA) ' |
| 244 | NGIRI-2024-26427 | COMSATS University of Information Technology | Main | Computer Engineering | 'Design and Implementation of an IoT based gas leakage detection and fire protection' |
| 245 | NGIRI-2024-26459 | COMSATS University of Information Technology | Wah | Computer Science | 'SentiVision' |
| 246 | NGIRI-2024-26497 | COMSATS University of Information Technology | Sahiwal | Electrical Engineering | 'A modified control strategy for seamless switching of virtual synchronous generator-based inverter using frequency, phase, and voltage regulation' |
| 247 | NGIRI-2024-26581 | COMSATS University of Information Technology | Lahore | Electrical Engineering | 'Design and development of integrated smart bicycle charging and rental system' |
| 248 | NGIRI-2024-26601 | COMSATS University of Information Technology | Wah | Mechanical Engineering | 'Cyclone Spray Dehydrator For Saturated Crystals' |
| 249 | NGIRI-2024-26606 | COMSATS University of Information Technology | Sahiwal | Mechanical Engineering | 'Autonomous Robotic Farming for Enhanced Crop Harvesting in Tunnel Farming' |
| 250 | NGIRI-2024-26669 | COMSATS University of Information Technology | Wah | Mechanical Engineering | 'Blended wing VTOL agricultural drone optimizing flight time for efficient crop productivity and police use for tear gas shelling ' |
| 251 | NGIRI-2024-26684 | COMSATS University of Information Technology | Main | Electrical Engineering | 'Binarized Neural Network for Digit Recognition on FPGA' |
| 252 | NGIRI-2024-26690 | COMSATS University of Information Technology | Wah | Mechanical Engineering | 'Improving Energy Performance of Household Refrigerator By Incorporating Phase Change Materials (PCMs) ' |
| 253 | NGIRI-2024-26768 | COMSATS University of Information Technology | Main | Electrical Engineering | 'Four-Dimensional (4D) Flow MRI Reconstruction using Advance MRIÂ Algorithms' |
| 254 | NGIRI-2024-26811 | COMSATS University of Information Technology | Main | Electrical/Electronics Engineering | 'Super Resolution in MRI' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| | | | | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** |
| | | | | | **Shortlisted FYPs** |
| 255 | NGIRI-2024-26833 | COMSATS University of Information Technology | Main | Computer Engineering | 'Four-dimensional (4D) flow MRI Reconstruction using Hardware Accelerators' |
| 256 | NGIRI-2024-26861 | COMSATS University of Information Technology | Sahiwal | Mechanical Engineering | 'Design And Development Of CNC Laser Engraver Machine' |
| 257 | NGIRI-2024-26924 | COMSATS University of Information Technology | Vehari | Software Engineering | 'Microvasculature structure segmentation from human kidney images using Machine Learning' |
| 258 | NGIRI-2024-27001 | COMSATS University of Information Technology | Main | Computer Science | 'StudentThreeSixty' |
| 259 | NGIRI-2024-27090 | COMSATS University of Information Technology | Wah | Mechanical Engineering | 'Air flow analysis through lungs using CFD' |
| 260 | NGIRI-2024-27115 | COMSATS University of Information Technology | Main | Electrical/Electronics Engineering | 'MODELLING AND CONTROL OF SIX DEGREE OF FREEDOM ANTHROPOMORPHIC ROBOTIC MANIPULATOR' |
| 261 | NGIRI-2024-27213 | COMSATS University of Information Technology | Main | Computer Science | 'PRISM' |
| 262 | NGIRI-2024-27278 | COMSATS University of Information Technology | Abbottabad | Electrical/Electronics Engineering | 'Parameter Estimation for imprved electric vehicle performances in cooperation of Iot features ' |
| 263 | NGIRI-2024-27358 | COMSATS University of Information Technology | Wah | Computer Science | 'Assistive Technology for Human Computer Interaction' |
| 264 | NGIRI-2024-27376 | COMSATS University of Information Technology | Attock | Electrical Engineering | 'Machine Learning Based Skin Tumor Detection and Intervention Using Robotic Arm' |
| 265 | NGIRI-2024-27440 | COMSATS University of Information Technology | Lahore | Computer Science | 'Emergency Manager' |
| 266 | NGIRI-2024-27534 | COMSATS University of Information Technology | Main | Energy System Engineering | 'Transition-Metal Dichalcogenides and Graphene Composites as Anode Material for lithium ion batteries' |
| 267 | NGIRI-2024-27746 | COMSATS University of Information Technology | Lahore | Electrical Engineering | 'Application controlled solar charged electric vehicle' |
| 268 | NGIRI-2024-27821 | COMSATS University of Information Technology | Main | Bio-Informatics | 'Mapping of safe groundwater ' |
| 269 | NGIRI-2024-27832 | COMSATS University of Information Technology | Main | Bio-Informatics | 'Baseline data to access the health status of people living near nalalai in twin cities' |
| 270 | NGIRI-2024-27912 | COMSATS University of Information Technology | Abbottabad | Electrical Engineering | 'Auto power switching for distribution board ' |
| 271 | NGIRI-2024-28049 | COMSATS University of Information Technology | Abbottabad | Electrical Engineering | 'Automation Substation ' |
| 272 | NGIRI-2024-28050 | COMSATS University of Information Technology | Main | Electronics | 'Revolutionizing Automation through Wireless Gesture-Controlled Robotic Arm' |
| 273 | NGIRI-2024-28206 | COMSATS University of Information Technology | Main | Electronics | 'resistive switching memory devices based on graphene oxide embebded in Polymethyl Methacrylate ' |
| 274 | NGIRI-2024-28220 | COMSATS University of Information Technology | Main | Electronics | 'Fabrication of solar cells based on Fe2+ doped CsPbCl3' |
| 275 | NGIRI-2024-28223 | COMSATS University of Information Technology | Sahiwal | Electrical Engineering | 'Real time automated fault detection of under ground power cables and instant messaging system for proactive maintenance and reduce downtime and provide safety' |
| 276 | NGIRI-2024-28245 | COMSATS University of Information Technology | Main | Electrical | 'AI based real time human activity recognition using 5G spectrum' |
| 277 | NGIRI-2024-28310 | COMSATS University of Information Technology | Main | Computer Engineering | 'FPGA Based NOC Driven Architecture to Accelerate Real Time Cardiac MRI' |
| 278 | NGIRI-2024-28353 | COMSATS University of Information Technology | Main | Electrical Engineering | 'IOT Based Automatic Vehicle Accident Detection and Rescue System ' |
| 279 | NGIRI-2024-28481 | COMSATS University of Information Technology | Main | Computer & Information System Engineering | 'MedTalk ' |
| 280 | NGIRI-2024-28543 | COMSATS University of Information Technology | Main | Electrical/Electronics Engineering | 'Smart water tank' |
| 281 | NGIRI-2024-28589 | COMSATS University of Information Technology | Lahore | Computer Engineering | 'A Digital Twin-Based Implementation of Intelligent Goat Health Monitoring System' |
| 282 | NGIRI-2024-28724 | COMSATS University of Information Technology | Main | Computer Science & IT | 'DeViATor' |
| 283 | NGIRI-2024-28799 | COMSATS University of Information Technology | Wah | Electrical Engineering | 'Charging and Battery Management System for Electric Vehicle Level 2 Mennekes Charger' |
| 284 | NGIRI-2024-28841 | COMSATS University of Information Technology | Lahore | Electrical Power Engineering | 'Development of ElectroMechanical Training System Using Four Quadrant Dynamometer' |
| 285 | NGIRI-2024-29103 | COMSATS University of Information Technology | Main | Bio-Informatics | 'Bio Inspired Memory Device' |
| 286 | NGIRI-2024-29425 | COMSATS University of Information Technology | Abbottabad | Computer Science | 'Ai Brain Tumor Classification in MRI' |
| 287 | NGIRI-2024-29557 | COMSATS University of Information Technology | Main | Electronics | 'Photodetectors formation using PbS nanoflakes' |
| 288 | NGIRI-2024-29681 | COMSATS University of Information Technology | Lahore | Computer Science | 'Pakistani Sign Language Translator' |
| 289 | NGIRI-2024-29810 | COMSATS University of Information Technology | Attock | Computer Science | 'AUGMENTED REALITY APP FOR COMSATS ATTOCK CAMPUS' |
| 290 | NGIRI-2024-30012 | COMSATS University of Information Technology | Wah | Electrical Engineering | 'Real Time Digital Text to Braille Translator' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
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| | | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | |
| | | | **Shortlisted FYPs** | | |
| 291 | NGIRI-2024-30064 | COMSATS University of Information Technology | Attock | Computer Science | 'A Deep Guard Application for Unveiling Synthetic Content in Visual Media' |
| 292 | NGIRI-2024-23311 | Dawood University of Engineering and Technology | Main | Telecom Engineering | 'Development of a Frequency-Based Device for Repelling Crop-Damaging Insects ' |
| 293 | NGIRI-2024-23338 | Dawood University of Engineering and Technology | Main | Electronics Engineeering | 'Development of Inline Classification System for Plywood Sheets at Auto Circular Machine' |
| 294 | NGIRI-2024-24441 | Dawood University of Engineering and Technology | Main | Computer System Engineering | 'A Federated Deep Learning Approach to Lung Cancer Detection Model' |
| 295 | NGIRI-2024-24469 | Dawood University of Engineering and Technology | Main | Electronics Engineeering | 'Smart Tea Maker' |
| 296 | NGIRI-2024-24507 | Dawood University of Engineering and Technology | Main | Computer System Engineering | 'Internet of Robots Cloud based Remote Control and Monitoring System' |
| 297 | NGIRI-2024-25476 | Dawood University of Engineering and Technology | Main | Energy System Engineering | 'Utilization of selected organic waste for the production of bioplastic' |
| 298 | NGIRI-2024-25835 | Dawood University of Engineering and Technology | Main | Telecom Engineering | 'IOT-Based Wireless Sensor Network (WSN) System to Detect Forest Fires' |
| 299 | NGIRI-2024-25858 | Dawood University of Engineering and Technology | Main | Computer System Engineering | 'DEEP LEARNING METHOD FOR PREDICTION OF CARDIOVASCULAR DISEASE USING CONVOLUTIONAL NEURAL NETWORK' |
| 300 | NGIRI-2024-26604 | Dawood University of Engineering and Technology | Main | Computer Science | 'D Bus Tracking and Monitoring System ' |
| 301 | NGIRI-2024-26821 | Dawood University of Engineering and Technology | Main | Computer Science | 'IoT Based Dual Purpose Atmospheric Monitoring System' |
| 302 | NGIRI-2024-26969 | Dawood University of Engineering and Technology | Main | Electronics Engineeering | 'Smart Auscultation for real time interpretation of cardiac abnormalities' |
| 303 | NGIRI-2024-26978 | Dawood University of Engineering and Technology | Main | Computer System Engineering | 'Enhancing Healthcare Efficiency: AI-Based ICD-10 Coding for Disease Classification' |
| 304 | NGIRI-2024-27234 | Dawood University of Engineering and Technology | Main | Electronics Engineeering | 'Fabric Defect Detection by Using Computer Vision' |
| 305 | NGIRI-2024-27620 | Dawood University of Engineering and Technology | Main | Electronics | 'Non Invasive Glucometer' |
| 306 | NGIRI-2024-27815 | Dawood University of Engineering and Technology | Main | Telecom Engineering | 'Design and Implementation of a Transceiver For Underwater Optical Wireless Communication ' |
| 307 | NGIRI-2024-27825 | Dawood University of Engineering and Technology | Main | Computer Science | 'Artificial Neural Vision' |
| 308 | NGIRI-2024-28574 | Dawood University of Engineering and Technology | Main | Computer Science | 'AI based Intruder and Robbery Detection System' |
| 309 | NGIRI-2024-29699 | Dawood University of Engineering and Technology | Main | Energy System Engineering | 'Valorization of organic Potential from Buffalo Manure for Biocrude Production using Hydrothermal Liquefaction' |
| 310 | NGIRI-2024-30264 | Dawood University of Engineering and Technology | Main | Electronics | 'Condition Monitoring for a Bleaching Dosing System' |
| 311 | NGIRI-2024-24413 | DHA Suffa University | Main | Computer Science | 'Scent Sense' |
| 312 | NGIRI-2024-24555 | DHA Suffa University | Main | Electrical Engineering | 'Design and Development of 5-Level Inverter with Optimized Switching Angles' |
| 313 | NGIRI-2024-24584 | DHA Suffa University | Main | Mechanical Engineering | 'Design and Fabrication of Electrostatic Separator for Recycling of Materials' |
| 314 | NGIRI-2024-25417 | DHA Suffa University | Main | Computer System | 'Deep Learning Approach For Detection Of Diabetic Retinopathy' |
| 315 | NGIRI-2024-25826 | DHA Suffa University | Main | Mechanical Engineering | 'Design and Development of Football Launching Machine' |
| 316 | NGIRI-2024-26186 | DHA Suffa University | Main | Computer Science | Community Based Water Quality Monitoring System |
| 317 | NGIRI-2024-26700 | DHA Suffa University | Main | Civil Engineering | 'PERFORMANCE EVALUATION AND COMPACTION ANALYSIS OF SUSTAINABLE SOIL STABILIZATION PROCESS USING WASTE MATERIALS' |
| 318 | NGIRI-2024-27583 | DHA Suffa University | Main | Computer Science | 'Smart Irrigation System And Crop Prediction' |
| 319 | NGIRI-2024-27644 | DHA Suffa University | Main | Mechanical Engineering | 'Design and Fabrication of Photovoltaic Powered Reverse Osmosis Desalination System' |
| 320 | NGIRI-2024-27806 | DHA Suffa University | Main | Mechanical Engineering | 'Design and Manufacturing of a modular Hydroponic System for Urban Settings' |
| 321 | NGIRI-2024-29185 | DHA Suffa University | Main | Computer Science | 'GPS Mobile application ' |
| 322 | NGIRI-2024-29568 | FATA University | Main | Computer Science | 'Expenses Manager ' |
| 323 | NGIRI-2024-29644 | FATA University | Main | Computer System | 'Radar system in IOT ' |
| 324 | NGIRI-2024-29854 | FATA University | Main | Computer Science | 'Driver Sleep Detection System' |
| 325 | NGIRI-2024-29875 | FATA University | Main | Computer Science | 'Home Security system ' |
| 326 | NGIRI-2024-29904 | FATA University | Main | Computer Science | 'smart plant monitoring' |
| 327 | NGIRI-2024-23653 | Fatima Jinnah Women University | Main | Computer Science | 'FitKid Child Fitness Monitoring App' |

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| 328 | NGIRI-2024-27231 | Fatima Jinnah Women University | Main | Software Engineering | 'Development of an Artificial Intelligence based Mental Health Support and Counseling Application by Using Electroencephalography Signals' |
| 329 | NGIRI-2024-27237 | Fatima Jinnah Women University | Main | Software Engineering | 'Design of a Machine Learning based Communication Platform with Real-Time Sign Language Support for the Deaf Community' |
| 330 | NGIRI-2024-27760 | Fatima Jinnah Women University | Main | Electronics Engineeering | 'Exploring the Depths: Advancing Soft Robotics for Precise Pipeline Inspection' |
| 331 | NGIRI-2024-29984 | Fatima Jinnah Women University | Main | Computer Science | '\"Smart Urdu Spell Checker: A Tool for Visually Impaired Individuals\"' |
| 332 | NGIRI-2024-28892 | Federal Urdu University of Arts, Science and Technology | Main | Computer Science | 'Artificially intelligent Drone ' |
| 333 | NGIRI-2024-29340 | Federal Urdu University of Arts, Science and Technology | Islamabad | Electrical Engineering | 'Automatic Number plate detection using Yolo' |
| 334 | NGIRI-2024-29575 | Federal Urdu University of Arts, Science and Technology | Main | Computer Science | 'TubeTalk Ai: Extract, understand, and interact with Videos using chatbot ' |
| 335 | NGIRI-2024-30081 | Federal Urdu University of Arts, Science and Technology | Main | Computer Science | 'Web Hosting Control Panel' |
| 336 | NGIRI-2024-24183 | Foundation University | Islamabad | Electrical Engineering | 'Leaf Wetness Detector Using Paper-Based Chipless RFID' |
| 337 | NGIRI-2024-24747 | Foundation University | Islamabad | Software Engineering | 'Vox check' |
| 338 | NGIRI-2024-24910 | Foundation University | Islamabad | Computer Science | 'Guardian Real Time Monitoring System for cold chains' |
| 339 | NGIRI-2024-24958 | Foundation University | Islamabad | Software Engineering | 'Voguley Forecasting' |
| 340 | NGIRI-2024-24961 | Foundation University | Islamabad | Computer Science & IT | 'Irrigate Smart An IoT-based automated irrigation and fire detection system for sustainable farming using Raspberry Pi 4.0' |
| 341 | NGIRI-2024-25289 | Foundation University | Islamabad | Biomedical Engineering | 'TMPA(Transradial Myoelectric Prosthetic Arm)' |
| 342 | NGIRI-2024-25446 | Foundation University | Islamabad | Software Engineering | 'Pregmote' |
| 343 | NGIRI-2024-26513 | Foundation University | Islamabad | Engineering and Sciences | 'LifeSync' |
| 344 | NGIRI-2024-28712 | Foundation University | Islamabad | Biomedical Engineering | ' Smart infection Control System' |
| 345 | NGIRI-2024-29163 | Foundation University | Islamabad | Biomedical Engineering | 'Smart Kyphotic Therapy Device ' |
| 346 | NGIRI-2024-23537 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical/Electronics Engineering | 'Voice Activated Robotic Arm for Visually Impaired' |
| 347 | NGIRI-2024-23602 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical/Electronics Engineering | 'Smart Sign Language Glove for Speech and Hearing Impaired' |
| 348 | NGIRI-2024-23617 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical Engineering | 'Robotic Palletizing Solution With Intelligence For Automating Logistics' |
| 349 | NGIRI-2024-23812 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Computer Science | 'Blockchain based voting system' |
| 350 | NGIRI-2024-23815 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Engineering and Sciences | 'Early Earthquake Warning System' |
| 351 | NGIRI-2024-23878 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical Power Engineering | 'AI-Enhanced Drone for High Voltage Insulator Surface Condition Monitoring' |
| 352 | NGIRI-2024-24177 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical/Electronics Engineering | 'Smart Assistant for Visually Impaired ' |
| 353 | NGIRI-2024-24565 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical Engineering | 'Alarm enabled Autonomous Fire Fighting Robot' |
| 354 | NGIRI-2024-24703 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Computer Engineering | 'Virtual Odyssey' |
| 355 | NGIRI-2024-25279 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical/Electronics Engineering | 'Augmented Reality for Electrical Circuits' |
| 356 | NGIRI-2024-25567 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical Engineering | 'Multi-Modal Sensor Fusion with Camera Perception based Autonomous Vehicle' |
| 357 | NGIRI-2024-26645 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Electrical Power Engineering | 'Design and Development of an EV motor with an Advanced Controller' |
| 358 | NGIRI-2024-28452 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Computer Engineering | 'Intellident' |
| 359 | NGIRI-2024-29031 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Mechanical Engineering | 'Design and development of Maglev Vehicle' |
| 360 | NGIRI-2024-29332 | Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | Swabi | Mechanical Engineering | 'AI Based Unmanned Syringe Control System using DOF Robotic Arm' |
| 361 | NGIRI-2024-23649 | GIFT University | Gujranwala | Electrical Engineering | 'IOT Enable Smart Device for Visually impaired people ' |
| 362 | NGIRI-2024-24033 | GIFT University | Gujranwala | Computer Science | 'Multimodel Depression Analysis using deep learning' |
| 363 | NGIRI-2024-24341 | GIFT University | Gujranwala | Software Engineering | 'NeuroInsight AI Brain Tumor and Alzheimer Detection' |
| 364 | NGIRI-2024-28148 | GIFT University | Gujranwala | Computer Science | 'Smart Solution for Homes' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 365 | NGIRI-2024-28280 | GIFT University | Gujranwala | Software Engineering | 'Meta Garage' |
| 366 | NGIRI-2024-28661 | GIFT University | Gujranwala | Computer Science | 'Intelligent Guide for Visually Impaired and Blind Person' |
| 367 | NGIRI-2024-28717 | GIFT University | Gujranwala | Computer Science | 'Smart City Surveillance VISIONARY' |
| 368 | NGIRI-2024-23813 | Government College University | Faisalabad | Electrical Engineering | 'Automatic System Design For Vertical Farming using IoT ' |
| 369 | NGIRI-2024-25145 | Government College University | Faisalabad | Mechanical Engineering | 'Additive Manufacturing of lightweight Aerospace Components' |
| 370 | NGIRI-2024-25641 | Government College University | Faisalabad | Mechanical Engineering | 'Development of a Smart Home Energy Management System' |
| 371 | NGIRI-2024-26921 | Government College University | Faisalabad | Mechanical Engineering | 'Wind Turbine' |
| 372 | NGIRI-2024-29884 | Government College University | Faisalabad | Electrical Engineering | 'DESIGN AND DEVELOPMENT OF A SELF-POWERED IOT-BASED FAULT DETECTION SYSTEM FOR UNDERGROUND CABLES.' |
| 373 | NGIRI-2024-26271 | Government College University, Hyderabad | Main | Computer Science | 'NaviSense Smart Stick' |
| 374 | NGIRI-2024-26275 | Government College University, Hyderabad | Main | Computer Science | 'Intelligent Greenhouse with Automated Environmental Management' |
| 375 | NGIRI-2024-26281 | Government College University, Hyderabad | Main | Computer Science | 'Silent Speak Empowering Mute Communication Through Smart Gesture' |
| 376 | NGIRI-2024-27478 | Government College University, Hyderabad | Main | Computer Science | 'IOT based LPG gas leakage detection alarming and controlling system' |
| 377 | NGIRI-2024-27658 | Government College Women University | Sialkot | Computer Science | 'Fake drug detection using Blockchain technology ' |
| 378 | NGIRI-2024-27662 | Government College Women University | Sialkot | Computer Science & IT | 'Detection of Alzheimer at early stage using deep learning' |
| 379 | NGIRI-2024-27669 | Government College Women University | Sialkot | Computer Science | 'Fake review detection ' |
| 380 | NGIRI-2024-27679 | Government College Women University | Sialkot | Computer Science & IT | 'Brain tumor detection ' |
| 381 | NGIRI-2024-27724 | Government College Women University | Sialkot | Computer Science | 'Revolutionizing Dairy Farming with IoT Based Smart Farm' |
| 382 | NGIRI-2024-28110 | Government College Women University | Sialkot | Computer Science | 'Ads diagnosis chatbot' |
| 383 | NGIRI-2024-26305 | Government College Women University, Faislabad | Main | Information Technology | IoT Enabled Energy Control System |
| 384 | NGIRI-2024-27473 | Government College Women University, Faislabad | Main | Computer Science | 'Baby Monitoring System Using IoT' |
| 385 | NGIRI-2024-27476 | Government College Women University, Faislabad | Main | Computer Science | 'AI Virtual Painter' |
| 386 | NGIRI-2024-27479 | Government College Women University, Faislabad | Main | Computer Science | Visualize Your Imagination |
| 387 | NGIRI-2024-27481 | Government College Women University, Faislabad | Main | Computer Science | 'MobileHunt' |
| 388 | NGIRI-2024-23750 | Grafton College Islamabad (Affiliated Campus of NUML) | Islamabad | Electrical Engineering | 'Intelligent lithium ion battery management system ' |
| 389 | NGIRI-2024-24559 | Grafton College Islamabad (Affiliated Campus of NUML) | Islamabad | Electrical Engineering | 'SMART AGRICULTURE SYSTEM' |
| 390 | NGIRI-2024-27352 | Habib University | Karachi | Computer Engineering | 'IntelliCropPK A Dynamic IoT Ecosystem for Sustainable Agriculture in the Face of Climate Change' |
| 391 | NGIRI-2024-27572 | Habib University | Karachi | Electrical Engineering | 'GaN based DC DC Buck Converters for Electric Vehicle (EV) Auxiliary Power Module (APM)' |
| 392 | NGIRI-2024-24178 | Hamdard University | Karachi | Computer Science | 'Drone Target Acquisition System' |
| 393 | NGIRI-2024-24184 | Hamdard University | Karachi | Computer Science & IT | 'Automatic Fabric Defect Detection Using Convolutional Neural Network' |
| 394 | NGIRI-2024-24185 | Hamdard University | Karachi | Computer Science | 'Smart vision kit for visually impaired person' |
| 395 | NGIRI-2024-24984 | Hamdard University | Karachi | Electrical | 'three phase Synchronization with energy analyzer' |
| 396 | NGIRI-2024-25036 | Hamdard University | Karachi | Computer Science | 'Legal Consulting Application with Artificial Intelligence Assistance' |
| 397 | NGIRI-2024-25074 | Hamdard University | Karachi | Electrical Engineering | 'PLC Based Synchronization Of Induction Motors for Thread Rolling' |
| 398 | NGIRI-2024-25188 | Hamdard University | Karachi | Computer Science | 'Web security analyser ' |
| 399 | NGIRI-2024-25508 | Hamdard University | Karachi | Electrical Engineering | 'HMI and PLC based SCADA controlled system for Textile Industry' |
| 400 | NGIRI-2024-25718 | Hamdard University | Karachi | Biomedical Engineering | 'Noninvasive Cardiac Activity Analyzer' |
| 401 | NGIRI-2024-26182 | Hamdard University | Islamabad | Electrical Engineering | Utilizing Machine Learning for Bearing Fault Detection in Variable Frequency Drive (VFD) Operated Rotary Machinery: Advancing Predictive Maintenance for Sustainable Operations |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 402 | NGIRI-2024-26183 | Hamdard University | Islamabad | Electrical Engineering | Developing and Implementing Motor Controller and Regenerative Braking System for Electric Vehicles: Advancing Sustainable Transportation Solutions |
| 403 | NGIRI-2024-26184 | Hamdard University | Islamabad | Electrical Engineering | Deploying Photovoltaic Water Pumping Systems with Coupled-Inductor Diode Assisted Boost Inverter for Direct Torque Control of Induction Motors: Innovating for Sustainable Energy Access |
| 404 | NGIRI-2024-26185 | Hamdard University | Islamabad | Electrical Engineering | Enhancing Transformer Parameter Optimization: Deploying a Real-Time Monitoring System for Sustainable Energy Infrastructure Management |
| 405 | NGIRI-2024-26256 | Hamdard University | Karachi | Electrical Engineering | 'Three phase ATS with voltage and temprature protection system' |
| 406 | NGIRI-2024-26524 | Hamdard University | Islamabad | Computer Science | 'Deep Learning based MR Image Reconstruction' |
| 407 | NGIRI-2024-26525 | Hamdard University | Islamabad | Computer Science | 'Ehealthcare' |
| 408 | NGIRI-2024-26532 | Hamdard University | Islamabad | Computer Science | 'A Comparative Analysis on Usability of University Learning Management Systems In Islamabad' |
| 409 | NGIRI-2024-26535 | Hamdard University | Islamabad | Computer Science | 'Deep Learning Based Maneuvering For Automated Vehicle in GPS/Communication Denied Environment' |
| 410 | NGIRI-2024-28352 | Hamdard University | Karachi | Electrical Engineering | 'EcoSwitch: IoT based Gateway to Smart Energy Management' |
| 411 | NGIRI-2024-24807 | Hazara University | Garden | Computer System | 'Ai based object detection robot' |
| 412 | NGIRI-2024-23768 | HITEC University | Main | Mechanical Engineering | 'Efficient Embedded System Design for the Experimental Investigation of Heat Transfer Enhancement of Heat Exchanger Using Extended Surfaces & Nano-Fluids' |
| 413 | NGIRI-2024-23809 | HITEC University | Main | Mechanical Engineering | 'To Investigate the Effect of Vibration and Magnetic Field for Heat Transfer Performance of Heat Exchanger for Space Heating' |
| 414 | NGIRI-2024-24437 | HITEC University | Main | Computer Engineering | 'Brain Controlled Wheelchair' |
| 415 | NGIRI-2024-24669 | HITEC University | Main | Mechanical Engineering | 'Investigation and Fabrication of Pivoting Mechanism for Nano Energy Harvesting' |
| 416 | NGIRI-2024-24696 | HITEC University | Main | Electrical Engineering | 'AI based Herbicide detection and removal robot ' |
| 417 | NGIRI-2024-24707 | HITEC University | Main | Computer Engineering | 'AI Solar Tracking System without LDR sensors' |
| 418 | NGIRI-2024-24713 | HITEC University | Main | Software Engineering | 'AI Based gesture control system for smart devices' |
| 419 | NGIRI-2024-24728 | HITEC University | Main | Software Engineering | 'Agrio ' |
| 420 | NGIRI-2024-24744 | HITEC University | Main | Computer Engineering | 'Smart Electricity bill Estimation and Home Automation' |
| 421 | NGIRI-2024-24759 | HITEC University | Main | Electrical Engineering | 'DESIGN AND IMPLEMENTATION OF AN EFFICIENT DIGITAL SMART METER' |
| 422 | NGIRI-2024-24779 | HITEC University | Main | Computer Science | 'Farm2Table App' |
| 423 | NGIRI-2024-24801 | HITEC University | Main | Software Engineering | 'Smart Traffic Light Simulation' |
| 424 | NGIRI-2024-24840 | HITEC University | Main | Electrical Power Engineering | 'RFID based book tracking system for libraries ' |
| 425 | NGIRI-2024-24856 | HITEC University | Main | Electrical Engineering | 'Compression Sensing and Noise Resistant Chaotic Image Encryption' |
| 426 | NGIRI-2024-24870 | HITEC University | Main | Electrical Engineering | 'Development of Electronic Speed Controller and Test Bench for Drone BLDC Motor' |
| 427 | NGIRI-2024-24905 | HITEC University | Main | Computer Engineering | 'Smart Stick For Blind' |
| 428 | NGIRI-2024-24959 | HITEC University | Main | Computer Science | 'Thought Therapy' |
| 429 | NGIRI-2024-25502 | HITEC University | Main | Computer Science | 'Tunnel farming automation and optimization system' |
| 430 | NGIRI-2024-26210 | HITEC University | Main | Mechanical Engineering | 'Design, Fabrication and Analyses of Dynamometer' |
| 431 | NGIRI-2024-26238 | HITEC University | Main | Software Engineering | 'AI Based Resume Screening ' |
| 432 | NGIRI-2024-26621 | HITEC University | Main | Computer Science | 'TRAX' |
| 433 | NGIRI-2024-27882 | ILMA University, formerly Institute of Business & Technology (IBT) | Main | Computer Science | 'SMART SOLUTION FOR MACHINERY MAINTENANCE THROUGH IOT MONITORING' |
| 434 | NGIRI-2024-28204 | ILMA University, formerly Institute of Business & Technology (IBT) | Main | Computer Science | 'ADVANCED AUTOMATED ENERGY MANAGEMENT WITH INTEGRATED HUMAN PRESENCE SENSING' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 435 | NGIRI-2024-28318 | ILMA University, formerly Institute of Business & Technology (IBT) | Main | Computer Science | 'NAVIGATION ASSISTANCE FOR THE VISUALLY IMPAIRED A SMART SHOE APPROACH' |
| 436 | NGIRI-2024-28763 | ILMA University, formerly Institute of Business & Technology (IBT) | Main | Computer Science | 'Living Human Detection System During Earthquake Disaster' |
| 437 | NGIRI-2024-23592 | Indus University | Karachi | Software Engineering | 'Assistive Vocalizer sign language system' |
| 438 | NGIRI-2024-23597 | Indus University | Karachi | Software Engineering | Real-time parking system based on IOT |
| 439 | NGIRI-2024-23648 | Indus University | Karachi | Software Engineering | Intelligent Farming Surveillance System |
| 440 | NGIRI-2024-23660 | Indus University | Karachi | Computer Science | 'Exrtraction of Person Specific Footage' |
| 441 | NGIRI-2024-23978 | Indus University | Karachi | Computing and Technology | 'Autonomous survilliance system ' |
| 442 | NGIRI-2024-24141 | Indus University | Karachi | Computer Science & IT | 'Cloud based retailer for bussines to bussines' |
| 443 | NGIRI-2024-24144 | Indus University | Karachi | Science & Technology | 'IOT based transformer health monitoring and anti thefting system' |
| 444 | NGIRI-2024-24169 | Indus University | Karachi | Mechanical Engineering | 'Design and Development of Self Chargeable Bike using Alternator and Solar ' |
| 445 | NGIRI-2024-24212 | Indus University | Karachi | Science & Technology | 'IoT Based Smart Gas leakage Detector ' |
| 446 | NGIRI-2024-24302 | Indus University | Karachi | Electrical | 'IOT Based military Bot' |
| 447 | NGIRI-2024-24619 | Indus University | Karachi | Electrical Engineering | 'PLC OPERATED COLOR BASED PRODUCT SORTING MACHINE' |
| 448 | NGIRI-2024-24664 | Indus University | Karachi | Electrical | 'Teach Bot For Teaching Assistance With AI Support' |
| 449 | NGIRI-2024-24667 | Indus University | Karachi | Electrical Engineering | 'IOT BASED SMART HELMET FOR SECURITY & ACCIDENT ALERT WITH SMART FEATURES' |
| 450 | NGIRI-2024-24693 | Indus University | Karachi | Mechanical Engineering | 'Design and fabrication of Mini wind turbine using stepper motor' |
| 451 | NGIRI-2024-24704 | Indus University | Karachi | Electrical | 'Life saving unmanned Speed boat with IOT based controlling ' |
| 452 | NGIRI-2024-24838 | Indus University | Karachi | Mechanical Engineering | 'Design Fabrication and performance analysis tidal driven electric generator with compressed air energy storage ' |
| 453 | NGIRI-2024-24866 | Indus University | Karachi | Engineering and Sciences | Design and Implementation of Smart IoT-Enabled Solar-Powered Distribution for metropolitan city |
| 454 | NGIRI-2024-24886 | Indus University | Karachi | Electrical Power Engineering | 'IoT based smart monitoring and communication by using hand glove' |
| 455 | NGIRI-2024-24893 | Indus University | Karachi | Mechanical Engineering | 'Design and fabrication of portable thermo electric refrigerator' |
| 456 | NGIRI-2024-24974 | Indus University | Karachi | Electrical Power Engineering | IOT Base Smart Monitoring and controlling of Industrial Exhaust fan from Wastage air of exhaust xhaust Air With Self Feature IOT Based Monitoring' |
| 457 | NGIRI-2024-25328 | Indus University | Karachi | Electrical Engineering | 'IOT BASED EMBEDDED SYSTEM TRAINER BY USING ARDUINO MEGA' |
| 458 | NGIRI-2024-26519 | Indus University | Karachi | Computing and Technology | cloud-based influencer link |
| 459 | NGIRI-2024-26964 | Indus University | Karachi | Electrical | Upgradation of e bike with Integrating Fuel-Based Emergency Charging System for Enhanced Mobility |
| 460 | NGIRI-2024-26989 | Indus University | Karachi | Computer Science | 'IoT Based Greenhouse Controlling and Management System ' |
| 461 | NGIRI-2024-27025 | Indus University | Karachi | Computer Science | 'Infant Guard' |
| 462 | NGIRI-2024-27615 | Indus University | Karachi | Computer Science | 'IOT Based Surveillance Insect Reboot With Blynk' |
| 463 | NGIRI-2024-27985 | Indus University | Karachi | Software Engineering | Smart Mobility Assistant |
| 464 | NGIRI-2024-29639 | Indus University | Karachi | Science & Technology | 'Indigenous Trainer of PLC Based Smart VFD for Industrial 3-Phase Motor Optimization with Monitoring And Controlling Through IOT' |
| 465 | NGIRI-2024-30052 | Indus University | Karachi | Electrical Engineering | 'Vertical car parking ' |
| 466 | NGIRI-2024-30089 | Indus University | Karachi | Energy System Engineering | 'Energy Conservation in Air Conditioning with Monitoring and Data logging System uing PLC & SCADA' |
| 467 | NGIRI-2024-23865 | Information Technology University | Lahore | Computer Science | 'VR based Training for Emergency Response Services' |
| 468 | NGIRI-2024-23866 | Information Technology University | Lahore | Electrical Engineering | 'Smart Bird Care' |
| 469 | NGIRI-2024-24062 | Information Technology University | Lahore | Computer Engineering | 'AI Powered Self Checkout System' |
| 470 | NGIRI-2024-24225 | Information Technology University | Lahore | Electrical Engineering | 'EMG Based Human Body Behavior Estimation Using Machine Learning Techniques' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|------------|-----------|
| 471 | NGIRI-2024-24303 | Information Technology University | Lahore | Electrical Engineering | 'Smart Hydroponic Farming' |
| 472 | NGIRI-2024-26680 | Information Technology University | Lahore | Electrical Engineering | 'Tube well Automation Control System ' |
| 473 | NGIRI-2024-28094 | Information Technology University | Lahore | Computer Science | 'Harnessing Mixed Reality and Drones' |
| 474 | NGIRI-2024-28202 | Information Technology University | Lahore | Computer Engineering | 'BLE Beacon-Based Indoor Navigation System' |
| 475 | NGIRI-2024-28208 | Information Technology University | Lahore | Computer Engineering | 'Revolutionised Ecommerce Platform' |
| 476 | NGIRI-2024-28394 | Information Technology University | Lahore | Computer Science | 'Twitter Data Analytics For Pakistan Across Time, Language, Location with Multilingual support' |
| 477 | NGIRI-2024-28478 | Information Technology University | Lahore | Computer Engineering | 'NERF on the Edge' |
| 478 | NGIRI-2024-28762 | Information Technology University | Lahore | Computer Science | 'Safe Navigation of Multi-Agent Robotics Systems' |
| 479 | NGIRI-2024-25259 | Institute of Business Management | Main | Computer Science | 'Student Performance Prediction System' |
| 480 | NGIRI-2024-25290 | Institute of Business Management | Main | Computer Science | 'Ride Together ' |
| 481 | NGIRI-2024-25392 | Institute of Business Management | Main | Computer & Information System Engineering | 'MyLegalPal' |
| 482 | NGIRI-2024-25515 | Institute of Business Management | Main | Computer Science | 'Car Price Prediction Model' |
| 483 | NGIRI-2024-25516 | Institute of Business Management | Main | Computer Science | 'Hate speech detection and context analysis ' |
| 484 | NGIRI-2024-23622 | Institute of Industrial Electronics Engineering | Main | Industrial Electronics | 'Intelligent Laser Engraving Machine' |
| 485 | NGIRI-2024-23636 | Institute of Industrial Electronics Engineering | Main | Industrial Electronics | 'Development of Sensor Based Wearable System for Sign Language to Speech Translation' |
| 486 | NGIRI-2024-23700 | Institute of Industrial Electronics Engineering | Main | Industrial Electronics | 'REAL TIME NEURAL SIGNAL PROCESSING FOR COMPUTER CONTROLLING' |
| 487 | NGIRI-2024-23857 | Institute of Industrial Electronics Engineering | Main | Industrial Electronics | 'Development of a Multi-Cell Phone Charging Booth with Biometric Security and Cloud-Based Billing information' |
| 488 | NGIRI-2024-24369 | Institute of Southern Punjab | Main | Electrical Engineering | 'DESIGN AND DEVELOPMENT OF INVERTER FOR SPEED CONTROL OF THREE PHASE INDUCTION MOTOR ' |
| 489 | NGIRI-2024-25407 | Institute of Southern Punjab | Main | Electrical Engineering | 'IOT â€" CONTROLLED SOLAR GRASS CUTTER WITH ADJUSTABLE BLADES' |
| 490 | NGIRI-2024-23480 | Institute of Space Technology | Islamabad | Avionics Engineering | 'Formulation of Three Dimensional Proportional Navigation Algorithm and implementation of complete engagement scenario in Virtual Reality Environment ' |
| 491 | NGIRI-2024-23497 | Institute of Space Technology | Islamabad | Avionics Engineering | 'Design and manufacturing of Electronic Control Unit (ECU) for electric vehicle applications' |
| 492 | NGIRI-2024-23593 | Institute of Space Technology | Islamabad | Avionics Engineering | '\"Design & development of 8x8 substrate based 2-12 GHz UWB Vivaldi antenna array for on-board LEO satelliteÂ ELINTÂ system.\"' |
| 493 | NGIRI-2024-23634 | Institute of Space Technology | KICSIT | Computer Engineering | 'Machine health monitoring system based on AI algorithms using its sound (rotating parts) ' |
| 494 | NGIRI-2024-23662 | Institute of Space Technology | Islamabad | Biomedical Engineering | 'Fabrication of Oxidized Guar Gum/Salvia Miltiorrhiza/Agar Agar based 3d printed scaffold for potential wound healing applications.' |
| 495 | NGIRI-2024-23669 | Institute of Space Technology | Islamabad | Electrical Engineering | 'Autonomous fruit plucking robot for agriculture benificaries' |
| 496 | NGIRI-2024-23677 | Institute of Space Technology | Islamabad | Computer Science | 'Security System for keyless car' |
| 497 | NGIRI-2024-23708 | Institute of Space Technology | KICSIT | Computer Engineering | 'AI Based Fire Detection System' |
| 498 | NGIRI-2024-23713 | Institute of Space Technology | Islamabad | Computer Science | 'Vehicle Detection and Tracking using UAVs' |
| 499 | NGIRI-2024-23988 | Institute of Space Technology | Islamabad | Electrical Engineering | 'Ambulance Tracking with Patient Health Monitoring System' |
| 500 | NGIRI-2024-24096 | Institute of Space Technology | Islamabad | Electrical | 'IoT based Hydroponic System' |
| 501 | NGIRI-2024-24809 | Institute of Space Technology | Islamabad | Avionics/Aeronautical Engineering | 'Design and fabrication of Co flow jet to control Separation ' |
| 502 | NGIRI-2024-25040 | Institute of Space Technology | KICSIT | Computer Engineering | 'Artificial Intelligence Sign Language ' |
| 503 | NGIRI-2024-25908 | Institute of Space Technology | Islamabad | Computer Science | 'Drive Check' |
| 504 | NGIRI-2024-25956 | Institute of Space Technology | Islamabad | Electrical Engineering | 'Electric Bicycle with Rechargeable System' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 505 | NGIRI-2024-26037 | Institute of Space Technology | Islamabad | Computer Science | 'AI Driven Synthetic Data Generation' |
| 506 | NGIRI-2024-26189 | Institute of Space Technology | Islamabad | Avionics/Aeronautical Engineering | 'Design and Development of a Tunneling Robot for Safeguarding Surface Infrastructure Integrity in Tunnel Projects' |
| 507 | NGIRI-2024-26322 | Institute of Space Technology | Islamabad | Electrical Engineering | 'Real Time Tracking and Environment Monitoring Device for Outdoor Activities' |
| 508 | NGIRI-2024-26414 | Institute of Space Technology | Islamabad | Mechanical Engineering | 'Design and fabrication of underwater drone ' |
| 509 | NGIRI-2024-26448 | Institute of Space Technology | Islamabad | Avionics Engineering | 'Integrity assessment of Communication, Navigation and Surveillance Architecture to support Urban Air mobility' |
| 510 | NGIRI-2024-26882 | Institute of Space Technology | Islamabad | Biomedical Engineering | 'Development and deposition of Boron and Silver Doped Mesoporous Bioactive Glass Nanoparticles on Fuctionalized PEEK coating for biomedical Implants efficacy' |
| 511 | NGIRI-2024-26903 | Institute of Space Technology | Islamabad | Mechanical Engineering | 'IOT Based Multi Functional Agriculture System For Precision Farming' |
| 512 | NGIRI-2024-26938 | Institute of Space Technology | Islamabad | Biomedical Engineering | 'Coaxial Electrospun Fibers for Targeted Insulin Delivery PVA and PLGA Shell and Insulin Core Integration' |
| 513 | NGIRI-2024-26987 | Institute of Space Technology | Islamabad | Biomedical Engineering | 'Injectable Hydrogel for Ocular Repair as a Vitreous Substitute in retinal detachment' |
| 514 | NGIRI-2024-27046 | Institute of Space Technology | KICSIT | Computer Engineering | 'LARGE-SCALE SATELLITE SYNCHRONIZED HYBRID CLOCK with AQI MONITORING' |
| 515 | NGIRI-2024-27370 | Institute of Space Technology | Islamabad | Avionics/Aeronautical Engineering | 'Design and Fabrication of Three Axis Controller of a Satellite Model' |
| 516 | NGIRI-2024-27870 | Institute of Space Technology | KICSIT | Computer Science | 'Detecting Brain Tumor Using Federated Learning ' |
| 517 | NGIRI-2024-28439 | Institute of Space Technology | KICSIT | Computer Science | 'Optimized Ecommerce Store Through Social Analytics' |
| 518 | NGIRI-2024-28454 | Institute of Space Technology | KICSIT | Computer Science | 'Vocal Emotion Recognizer ' |
| 519 | NGIRI-2024-28479 | Institute of Space Technology | KICSIT | Computer Science | 'Meta Shopping Hub' |
| 520 | NGIRI-2024-28523 | Institute of Space Technology | Islamabad | Mechanical Engineering | 'Thermal Management System of Electronic Circuitry ' |
| 521 | NGIRI-2024-28917 | Institute of Space Technology | Islamabad | Mechanical Engineering | 'Plastic waste to electricity through Incineration ' |
| 522 | NGIRI-2024-23386 | International Islamic University | Islamabad | Computer Science | 'ZoombieShield Dash' |
| 523 | NGIRI-2024-23514 | International Islamic University | Islamabad | Electrical Engineering | 'Smart Brain Controlled Prosthetic Leg for Enhanced Mobility of Disabled Person ' |
| 524 | NGIRI-2024-23639 | International Islamic University | Islamabad | Mechanical Engineering | 'Design and Fabrication of Pipe Inspection and Climbing Robot' |
| 525 | NGIRI-2024-25015 | International Islamic University | Islamabad | Electrical Engineering | 'Autonomus Delivery Drone' |
| 526 | NGIRI-2024-27364 | International Islamic University | Islamabad | Mechanical Engineering | 'carbon neutral production of biodiesel from waste cooking oil with zero waste' |
| 527 | NGIRI-2024-27898 | International Islamic University | Islamabad | Mechanical Engineering | 'Design and development of a groundwater treatment system for agricultural applications' |
| 528 | NGIRI-2024-28492 | International Islamic University | Islamabad | Mechanical Engineering | 'Modeling and Fabrication of Bioink based 3D Printer for Biomedical Applications' |
| 529 | NGIRI-2024-23712 | Iqra National University | Main | Electrical Engineering | 'Real time Electricity theft detection using Observer meter' |
| 530 | NGIRI-2024-26515 | Iqra National University | Main | Computer Science | 'Self-Controlled Automata Arduino Wheelchair System' |
| 531 | NGIRI-2024-23951 | Iqra University | Main | Software Engineering | 'Autism Detection System' |
| 532 | NGIRI-2024-24418 | Iqra University | Chak Shahzad | Computer Science | 'IUOnline Lms Iqra University Chak Shahzad Campus Islamabad ' |
| 533 | NGIRI-2024-24567 | Iqra University | Islamabad | Computer Science | 'Underground Cable Fault Detector ' |
| 534 | NGIRI-2024-24585 | Iqra University | Islamabad | Computer Science | 'SmartBin' |
| 535 | NGIRI-2024-26048 | Iqra University | Main | Electrical Engineering | 'EcoCharge: Sustainable Electric Vehicle Charging Management Platform' |
| 536 | NGIRI-2024-26074 | Iqra University | Main | Computer Science | 'Chronicles of Atheria Game' |
| 537 | NGIRI-2024-26101 | Iqra University | Main | Computer Science | 'Eduflex' |
| 538 | NGIRI-2024-26122 | Iqra University | Main | Computer System | 'Transportation with Bus Linkers Web Application' |
| 539 | NGIRI-2024-26132 | Iqra University | Main | Software Engineering | 'Augmented Reality Book ' |
| 540 | NGIRI-2024-26134 | Iqra University | Main | Software Engineering | 'SEO ANALYZER AND KEYWORD RESEARCH TOOL' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 541 | NGIRI-2024-26146 | Iqra University | North Campus | Computer Science | Potholes Detection System using Deep Learning for Enhanced Navigation and Routing for Application. |
| 542 | NGIRI-2024-26202 | Iqra University | Main | Telecom Engineering | 'Smart Crop disease detection and classification' |
| 543 | NGIRI-2024-26398 | Iqra University | Main | Computer Science | 'University AR navigation app ' |
| 544 | NGIRI-2024-26793 | Iqra University | Gulshan Campus | Computer Science | 'Sign Language To Urdu Text' |
| 545 | NGIRI-2024-27062 | Iqra University | Main | Telecom Engineering | 'Dr. Clinico ' |
| 546 | NGIRI-2024-27742 | Iqra University | Main | Computer System | 'Code Development Lifecycle Management System' |
| 547 | NGIRI-2024-27885 | Iqra University | Gulshan Campus | Computer Science | 'AI Interview Trainer' |
| 548 | NGIRI-2024-27925 | Iqra University | Airport Campus | Computer Science & IT | 'Smart Automated Classroom Attendance System Using Face Recognition' |
| 549 | NGIRI-2024-27964 | Iqra University | Gulshan Campus | Computer System | 'Skin Diseases Detector' |
| 550 | NGIRI-2024-28003 | Iqra University | Gulshan Campus | Computer Science | 'IoT Based Home Security System with Biometric Authentication' |
| 551 | NGIRI-2024-28067 | Iqra University | Main | Software Engineering | 'Help Content Creator To Generate Background Music Using Facial Expression' |
| 552 | NGIRI-2024-28175 | Iqra University | Islamabad | Computer Science | 'Soil Analysis and Crop Fertility Prediction using IoT ' |
| 553 | NGIRI-2024-28211 | Iqra University | Main | Computer Science & IT | 'HMS Harmful Brain Activity Classification' |
| 554 | NGIRI-2024-28258 | Iqra University | Main | Telecommunication & Networking | 'Cotton Plant Disease Detection & Cure Recommendation System ' |
| 555 | NGIRI-2024-28371 | Iqra University | Gulshan Campus | Computer Science | 'Hair fall detection using AI' |
| 556 | NGIRI-2024-29087 | Iqra University | Main | Computer Science | 'Image Classification using FPGA' |
| 557 | NGIRI-2024-29633 | Iqra University | North Campus | Computer Science | Conveyable Inhalator Machine |
| 558 | NGIRI-2024-29682 | Iqra University | North Campus | Computer Science & IT | Vision Companion |
| 559 | NGIRI-2024-29856 | Iqra University | North Campus | Computer Science | Hands on Communicator |
| 560 | NGIRI-2024-29889 | Iqra University | North Campus | Computer Science | Multimodel Chatbot with Audio Integration Using Langchain |
| 561 | NGIRI-2024-29993 | Iqra University | Airport Campus | Computer Science | 'LIBAAS Recommendation APP' |
| 562 | NGIRI-2024-30040 | Iqra University | Islamabad | Computer Science & IT | 'MASKAN' |
| 563 | NGIRI-2024-30069 | Iqra University | Airport Campus | Computer Science | 'Trading bot' |
| 564 | NGIRI-2024-30073 | Iqra University | Airport Campus | Computer Science | 'Bus Navigation system ' |
| 565 | NGIRI-2024-30091 | Iqra University | Airport Campus | Computer Science & IT | 'The Healthiest Pharmacy' |
| 566 | NGIRI-2024-30126 | Iqra University | Airport Campus | Computer Science | 'Virtual Child Care Clinic' |
| 567 | NGIRI-2024-25907 | Islamia College Peshawar | Main | Computer Science | 'Integrated Deepfake Detection System: Analyzing Frequency, Temporal, and Spatial dynamics' |
| 568 | NGIRI-2024-26157 | Islamia College Peshawar | Main | Computer Science | 'Deep Learning Assisted Self Driving Car over Economical Hardware' |
| 569 | NGIRI-2024-27197 | Islamia College Peshawar | Main | Software Engineering | 'Real time vigilance for smart driving' |
| 570 | NGIRI-2024-28279 | Islamia College Peshawar | Main | Software Engineering | 'GANs for Realistic Image Synthesis and Data Augmentation using CIFAR TEN Dataset' |
| 571 | NGIRI-2024-29476 | Islamia College Peshawar | Main | Software Engineering | 'UNAD: Facilitating Deep Learning Applications for Urdu Fake News Classification Challenges' |
| 572 | NGIRI-2024-29753 | Islamia College Peshawar | Main | Computer Science | 'Climate Modeling ' |
| 573 | NGIRI-2024-24848 | Isra University | Hyderabad | Electrical Engineering | 'Smart Car Parking System using AI for MegaMALL' |
| 574 | NGIRI-2024-24986 | Isra University | Hyderabad | Mechanical Engineering | 'Investigating Sustainable Development of Photo Bioreactor for Algae Growth' |
| 575 | NGIRI-2024-28629 | Isra University | Hyderabad | Computer Science | 'PhysioTrack ' |
| 576 | NGIRI-2024-23254 | Khawaja Fareed University of Engineering and Information Technology | Main | Industrial Electronics | 'Wireless Sensor Networks for Real-time Monitoring and Control in Industrial Environments' |
| 577 | NGIRI-2024-23280 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer & Information System Engineering | 'IOT based Electronic voting machine' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 578 | NGIRI-2024-23463 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer & Information System Engineering | 'Cognimove Next Gen Voice and Brain control wheelchair' |
| 579 | NGIRI-2024-23464 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer & Information System Engineering | 'Smart Food feeder Robot for Disabled Person ' |
| 580 | NGIRI-2024-23468 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer & Information System Engineering | 'Face recognition gimble' |
| 581 | NGIRI-2024-23469 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Engineering | '3D-Scanner Machine ' |
| 582 | NGIRI-2024-23489 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science | 'Robotee (robotic coffee and tea cafe)' |
| 583 | NGIRI-2024-23495 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science | 'Smart Toy' |
| 584 | NGIRI-2024-23502 | Khawaja Fareed University of Engineering and Information Technology | Main | Electrical Engineering | 'LORA BASED WIRELESS WEATHER STATION MONITIORING SYSTEM USING MQTT BROKER' |
| 585 | NGIRI-2024-23513 | Khawaja Fareed University of Engineering and Information Technology | Main | Information Technology | 'Malware Detection Using Convolutional Neural Networks' |
| 586 | NGIRI-2024-23603 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Engineering | 'AI Powered Smart Access Control System' |
| 587 | NGIRI-2024-23604 | Khawaja Fareed University of Engineering and Information Technology | Main | Mechanical Engineering | 'Fabrication and Development of Compression Molding Machine capable of producing disposable products using Sugarcane waste' |
| 588 | NGIRI-2024-23633 | Khawaja Fareed University of Engineering and Information Technology | Main | Electrical Engineering | 'Smart Safety Helmet For Hazardous Environment' |
| 589 | NGIRI-2024-23737 | Khawaja Fareed University of Engineering and Information Technology | Main | Information Technology | 'Quick cab(Ride hailing platform)' |
| 590 | NGIRI-2024-23755 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science | 'Speech Emotion Detection ' |
| 591 | NGIRI-2024-23843 | Khawaja Fareed University of Engineering and Information Technology | Main | Information Technology | 'CyberGuard Challenge: A Dynamic Cybersecurity Battle' |
| 592 | NGIRI-2024-23962 | Khawaja Fareed University of Engineering and Information Technology | Main | Electrical Engineering | 'Infrared Camera Based Vein Detection System to Facilitate Pediatrics and Geriatrics' |
| 593 | NGIRI-2024-24026 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science | 'Defeating language Barrier- A Real Time Chat App' |
| 594 | NGIRI-2024-24317 | Khawaja Fareed University of Engineering and Information Technology | Main | Science & Technology | 'ADVANCE EGG INCUBATOR ' |
| 595 | NGIRI-2024-24588 | Khawaja Fareed University of Engineering and Information Technology | Main | Science & Technology | 'Power Padel to Run and Charge Electrical Devices/Office Equipments ' |
| 596 | NGIRI-2024-24955 | Khawaja Fareed University of Engineering and Information Technology | Main | Science & Technology | 'IoT VitalSigns: A Comprehensive Patient Health Monitoring System' |
| 597 | NGIRI-2024-25408 | Khawaja Fareed University of Engineering and Information Technology | Main | Mechanical Engineering | 'Green Tech Extrusion: Enhancing PET Production with AutomatedÂ Solutions' |
| 598 | NGIRI-2024-25466 | Khawaja Fareed University of Engineering and Information Technology | Main | Mechanical Engineering | 'Solar Panel Cleaning Robot' |
| 599 | NGIRI-2024-25680 | Khawaja Fareed University of Engineering and Information Technology | Main | Mechanical Engineering | 'SmartMold: Innovating Injection Blow Molding with Automation' |
| 600 | NGIRI-2024-25731 | Khawaja Fareed University of Engineering and Information Technology | Main | Information Technology | 'AI Powered Therapeutic Companion (AIRA)' |
| 601 | NGIRI-2024-25778 | Khawaja Fareed University of Engineering and Information Technology | Main | Software Engineering | 'Qualitative and Quantitative based Milk Contamination Fraud Detection and Classification using Advance ML and HSI Technology' |
| 602 | NGIRI-2024-26376 | Khawaja Fareed University of Engineering and Information Technology | Main | Software Engineering | 'HPLC and Hyper spectral imaging based milk adulteration detection and classification using deep learning techniques mobile application' |
| 603 | NGIRI-2024-27008 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science & IT | 'Multi Directional Solar Surveillance Robot' |
| 604 | NGIRI-2024-27247 | Khawaja Fareed University of Engineering and Information Technology | Main | Software Engineering | 'Iot-Based Avian Health and productivity management System ' |
| 605 | NGIRI-2024-27258 | Khawaja Fareed University of Engineering and Information Technology | Main | Electrical Engineering | 'Enhancing Crop Yield An Optimized Multi Parameter Iot Based System for Solar Powered Tunnel Farming' |
| 606 | NGIRI-2024-27637 | Khawaja Fareed University of Engineering and Information Technology | Main | Software Engineering | 'IoT and AI-Driven Smart Irrigation System Development' |
| 607 | NGIRI-2024-27858 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Engineering | 'Cotton leaf disease detection and classification using hyperspectral imaging' |
| 608 | NGIRI-2024-27891 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science & IT | 'Early Detection and Classification of Mango Leaf Diseases through Hyperspectral Camera Imaging' |
| 609 | NGIRI-2024-28529 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Engineering | 'Energy Harvesting Using PiezoElectric' |
| 610 | NGIRI-2024-28787 | Khawaja Fareed University of Engineering and Information Technology | Main | Science & Technology | 'Memory Guardians: AI innovations in Alzheimer\'s management ' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 611 | NGIRI-2024-28818 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science & IT | 'Daily Axis Solar Tracking System Of Solar Tunnel Dryer ' |
| 612 | NGIRI-2024-28820 | Khawaja Fareed University of Engineering and Information Technology | Main | Computer Science & IT | 'AI integrated Solar electric vehicle for disabled patients' |
| 613 | NGIRI-2024-29800 | Khawaja Fareed University of Engineering and Information Technology | Main | Engineering and Sciences | 'Design and fabrication of small scale IoT based central pivot irrigation System' |
| 614 | NGIRI-2024-30033 | Khawaja Fareed University of Engineering and Information Technology | Main | Electrical | 'Effective Solar Trap Solutions for Managing Whitefly and Lepidoptera Infestations in Cotton Cultivation' |
| 615 | NGIRI-2024-30212 | Khawaja Fareed University of Engineering and Information Technology | Main | Civil Engineering | 'Study of flow through Coastal structures' |
| 616 | NGIRI-2024-23944 | Khushal Khan Khattak University | Karak | Computer Science | 'Knowledge Sharing Application' |
| 617 | NGIRI-2024-24563 | Khushal Khan Khattak University | Karak | Computer Science | 'Automatic Leaf Disease Identification ' |
| 618 | NGIRI-2024-25582 | Khushal Khan Khattak University | Karak | Computer Science | ' Hospital Management System' |
| 619 | NGIRI-2024-25845 | Khushal Khan Khattak University | Karak | Computer Science | 'Gas Leakage Detection' |
| 620 | NGIRI-2024-29219 | Kinnaird College for Women | Main | Computer Science | 'AirGuard App' |
| 621 | NGIRI-2024-23587 | Lahore College for Women University | Lahore | Electrical Engineering | 'Wirelessly Controlling and Monitoring Smart Wheelchair using Electroencephalogram ' |
| 622 | NGIRI-2024-26152 | Lahore College for Women University | Lahore | Electrical Engineering | 'A multifunctional security solution with GPS Tracking, GSM Alerts, Self Defense and voice recognitionÂ feature' |
| 623 | NGIRI-2024-26962 | Lahore College for Women University | Lahore | Computer Science | 'Self-adapted Virtual Hand Rehabilitation Application for Hemiplegic Patients Using Deep Learning and Computer Vision Techniques' |
| 624 | NGIRI-2024-26966 | Lahore College for Women University | Lahore | Computer Science | 'A Real-Time 3D Utility Poles Structural Behavior Evaluation Mobile Application Using Drone, Computer Vision and Deep Learning Techniques' |
| 625 | NGIRI-2024-24692 | Lahore Garrison University | Main | Information Technology | 'Autism Prognosticator ' |
| 626 | NGIRI-2024-25964 | Lahore Garrison University | Main | Computer Science | 'BlindAssist: Machine Learning Enhanced Object Recognition, GPS tracking, and Speech Feedback' |
| 627 | NGIRI-2024-25987 | Lahore Garrison University | Main | Computer Science | 'Smart Farming Using IOT technology ' |
| 628 | NGIRI-2024-26027 | Lahore Garrison University | Main | Computer Science | 'Flood Prediction using AI ' |
| 629 | NGIRI-2024-27110 | Lahore Garrison University | Main | Software Engineering | 'FloraGuard IoT based Intelligent greenhouse monitoring system' |
| 630 | NGIRI-2024-27145 | Lahore Garrison University | Main | Software Engineering | 'Assault Squad ' |
| 631 | NGIRI-2024-27255 | Lahore Garrison University | Main | Software Engineering | 'Autism Emotion Synergy ' |
| 632 | NGIRI-2024-27703 | Lahore Garrison University | Main | Computer Science | 'Health Application and Telemedicine Service with focus on Chronic Conditions via wearable devices' |
| 633 | NGIRI-2024-28059 | Lahore Garrison University | Main | Software Engineering | 'Automated Diabetic Retinopathy Grading using Multi- Deep Neural Nets: Towards a Progressive Approach' |
| 634 | NGIRI-2024-28285 | Lahore Garrison University | Main | Information Technology | 'Fake Signature Detection By using Machine learning' |
| 635 | NGIRI-2024-28288 | Lahore Garrison University | Main | Computer Science & IT | 'Continuous Arterial Health Monitoring ' |
| 636 | NGIRI-2024-28326 | Lahore Garrison University | Main | Information Technology | 'Adventures In Alice Boardland' |
| 637 | NGIRI-2024-28484 | Lahore Garrison University | Main | Computer Science & IT | 'deep learning based video summarization by object detection' |
| 638 | NGIRI-2024-29899 | Lahore Garrison University | Main | Information Technology | 'Gesture Control Robot For Disabled Persons' |
| 639 | NGIRI-2024-27975 | Lahore Leads University | Main | Electrical Engineering | 'Surface Cleaner Machine' |
| 640 | NGIRI-2024-23583 | Lahore University of Management Sciences | Lahore | Bio-Informatics | 'EEG-fMRI DATA Fusion for Assessment and Classification of Cognitive Tasks' |
| 641 | NGIRI-2024-23625 | Lahore University of Management Sciences | Lahore | Computer Science | 'Forest Fire Detection in Northern Mountainous Area ' |
| 642 | NGIRI-2024-28793 | Lahore University of Management Sciences | Lahore | Electrical Engineering | 'DEVELOPING AN AI-POWERED AUTONOMOUS VEHICLE FOR EFFICIENT LAST MILE DELIVERY' |
| 643 | NGIRI-2024-25790 | Liaquat University of Medical and Health Sciences | Main | Biomedical Engineering | 'A soft Pneumatic robotic glove for hand rehabilitation for Hemiplegic patients after stroke ' |
| 644 | NGIRI-2024-23297 | Mehran University of Engineering & Technology | Jamshoro | Software Engineering | 'StellarScape' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 645 | NGIRI-2024-23406 | Mehran University of Engineering & Technology | Jamshoro | Software Engineering | 'Detection of AI Generated Voices and Images' |
| 646 | NGIRI-2024-23544 | Mehran University of Engineering & Technology | Jamshoro | Software Engineering | 'Dental caries Detection Application' |
| 647 | NGIRI-2024-23574 | Mehran University of Engineering & Technology | Jamshoro | Computer Science & IT | 'Code Swift' |
| 648 | NGIRI-2024-23901 | Mehran University of Engineering & Technology | Jamshoro | Electrical Engineering | 'Design & Development of Solar PV and Solar Thermal Operated Solar Dryers for Sustainable Food Supplies in Pakistan' |
| 649 | NGIRI-2024-23907 | Mehran University of Engineering & Technology | Jamshoro | Biomedical Engineering | 'AI-based device for the diagnosis of cardiovascular diseases' |
| 650 | NGIRI-2024-24004 | Mehran University of Engineering & Technology | Jamshoro | Software Engineering | 'Interactive Smart Mirror using Raspberry pi' |
| 651 | NGIRI-2024-24480 | Mehran University of Engineering & Technology | Jamshoro | Biomedical Engineering | '3D printed foot-ankle exoskeleton in cutting edge physiotherapy for rehabilitation ' |
| 652 | NGIRI-2024-24481 | Mehran University of Engineering & Technology | Jamshoro | Biomedical Engineering | ' 2D Virtual Cursor/Object Control Using EEG-Based Brain Computer Interface (BCI)' |
| 653 | NGIRI-2024-24487 | Mehran University of Engineering & Technology | Jamshoro | Biomedical Engineering | 'Synthesis of customized 3D printable heart valve' |
| 654 | NGIRI-2024-24782 | Mehran University of Engineering & Technology | Jamshoro | Telecom Engineering | 'Envirolink remote data transmission for challenging environments' |
| 655 | NGIRI-2024-25186 | Mehran University of Engineering & Technology | Jamshoro | Electronics Engineeering | 'Real Time Air Quality Monitoring And Mapping System for Hyderabad Sindh' |
| 656 | NGIRI-2024-25295 | Mehran University of Engineering & Technology | Jamshoro | Mechatronics Engineering | 'Design and Development of industrial articulated robotic arm for EducationalÂ Trainings' |
| 657 | NGIRI-2024-25424 | Mehran University of Engineering & Technology | Jamshoro | Computer System Engineering | 'Enhancing Accessibility With Bidirectional Sign Language and Translation' |
| 658 | NGIRI-2024-25475 | Mehran University of Engineering & Technology | Jamshoro | Telecom Engineering | 'IoT enabled Multipurpose Indigenous Cyber Lock for Fortifying industrial and cellular communication BTS sites' |
| 659 | NGIRI-2024-25482 | Mehran University of Engineering & Technology | Jamshoro | Computer System Engineering | 'Enhancing Campus Mobility Using Real Time Bus Tracking' |
| 660 | NGIRI-2024-25492 | Mehran University of Engineering & Technology | Jamshoro | Computer System Engineering | 'Interview preparation agent: Next generational AI assisted interview agent' |
| 661 | NGIRI-2024-25520 | Mehran University of Engineering & Technology | Jamshoro | Computer Science | 'Euro-Pak Sustainable Trade Bridge: Showcasing Pakistani Heritage in the European Market through E-commerce' |
| 662 | NGIRI-2024-25530 | Mehran University of Engineering & Technology | Jamshoro | Civil Engineering | 'Hydro piezoelectric Canal: Harnessing maximum pressure gradients for sustainable energy generation' |
| 663 | NGIRI-2024-25558 | Mehran University of Engineering & Technology | Jamshoro | Electronics Engineeering | 'Advancement in Braille Learning tools with the help of Edge AI' |
| 664 | NGIRI-2024-25559 | Mehran University of Engineering & Technology | Jamshoro | Telecommunication & Networking | 'AgriSense An IOT enabled precision Agriculture System' |
| 665 | NGIRI-2024-25569 | Mehran University of Engineering & Technology | Jamshoro | Electronics Engineeering | 'Voice and emotion based hate detection system using AI' |
| 666 | NGIRI-2024-25659 | Mehran University of Engineering & Technology | Jamshoro | Electronics Engineeering | 'Real Time FPGA Accelerated Image Processing using Vivado High Level Synthesis' |
| 667 | NGIRI-2024-25791 | Mehran University of Engineering & Technology | Jamshoro | Computer System Engineering | 'Multimodel analysis system for product reviews ' |
| 668 | NGIRI-2024-27094 | Mehran University of Engineering & Technology | Jamshoro | Mechatronics Engineering | 'Design and Development of an Autonomous Robot for Power Plant Pressure Vessel Inspection: Advancing Power Plant Safety' |
| 669 | NGIRI-2024-27335 | Mehran University of Engineering & Technology | Jamshoro | Mechanical Engineering | 'Design & Fabrication of Low Cost Stair lift' |
| 670 | NGIRI-2024-27336 | Mehran University of Engineering & Technology | Jamshoro | Mechanical Engineering | 'Design and Analysis of Hydrogen Fuel cell using Nickel Electrode' |
| 671 | NGIRI-2024-27678 | Mehran University of Engineering & Technology | Jamshoro | Computer Science | 'Building an AI powered , user centric digital marketplace for event management' |
| 672 | NGIRI-2024-28079 | Mehran University of Engineering & Technology | Jamshoro | Mechatronics Engineering | 'Design and development of the Bionic Hand (An advanced prosthetic hand)' |
| 673 | NGIRI-2024-28100 | Mehran University of Engineering & Technology | Jamshoro | Electrical Engineering | 'Design and Implementation of an Automatic Cleaning & Dual-Axis Tracking System for Enhancing Solar Power Performance' |
| 674 | NGIRI-2024-28547 | Mehran University of Engineering & Technology | Jamshoro | Telecom Engineering | 'Building a Data Communication Network Between Drones and Ground IoT Sensor Systems' |
| 675 | NGIRI-2024-28587 | Mehran University of Engineering & Technology | Khairpur | Software Engineering | 'Lexe' |
| 676 | NGIRI-2024-28593 | Mehran University of Engineering & Technology | Khairpur | Software Engineering | 'VisionSmartEd' |
| 677 | NGIRI-2024-28601 | Mehran University of Engineering & Technology | Khairpur | Software Engineering | 'Hunar mand thar ie Hand made thar' |
| 678 | NGIRI-2024-28611 | Mehran University of Engineering & Technology | Khairpur | Software Engineering | 'Securing defi: Elevating safety measures for layer 2 hardware wallets and verification' |
| 679 | NGIRI-2024-28781 | Mehran University of Engineering & Technology | Jamshoro | Telecom Engineering | 'Smart Forest:enabling iot for intrusion detection in forest' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 680 | NGIRI-2024-23298 | Mirpur University of Science and Technology (MUST) | Mirpur | Electrical Engineering | 'Improving the Handoff Mechanism in WiFi network ' |
| 681 | NGIRI-2024-23349 | Mirpur University of Science and Technology (MUST) | Mirpur | Electrical Engineering | 'Design of future AI based internet architecture in smart cities' |
| 682 | NGIRI-2024-24391 | Mirpur University of Science and Technology (MUST) | Mirpur | Electrical/Electronics Engineering | 'Wireless traffic load optimization at data centres' |
| 683 | NGIRI-2024-25165 | Mirpur University of Science and Technology (MUST) | Mirpur | Mechanical Engineering | 'Experimental investigation of heat transfer ehancement using nanofluids on confined heat sink' |
| 684 | NGIRI-2024-26169 | Mirpur University of Science and Technology (MUST) | Mirpur | Software Engineering | 'Realtime Condition Based Monitoring System via Digital Twin Technology' |
| 685 | NGIRI-2024-27904 | Mirpur University of Science and Technology (MUST) | Mirpur | Computer System Engineering | 'AI based Health Chatbot System using Deep Learning ' |
| 686 | NGIRI-2024-28065 | Mirpur University of Science and Technology (MUST) | Mirpur | Electrical Engineering | 'Greenhouse Monitoring and Control System using IOT' |
| 687 | NGIRI-2024-28395 | Mirpur University of Science and Technology (MUST) | Mirpur | Computer System Engineering | 'AvaxGods' |
| 688 | NGIRI-2024-28518 | Mirpur University of Science and Technology (MUST) | Mirpur | Electrical Engineering | 'Design and Development of Phasor Measurement Unit(PMU)' |
| 689 | NGIRI-2024-29293 | Mirpur University of Science and Technology (MUST) | Mirpur | Software Engineering | 'Fall Detection system for elderly People through wearable sensors' |
| 690 | NGIRI-2024-24425 | MNS University of Agriculture, Multan | Main | Information Technology | 'An IoT-based AI System for Smarter Weed Detection' |
| 691 | NGIRI-2024-25672 | MNS University of Agriculture, Multan | Main | Computer Science | 'IoT based smart system to detect chicken meat spoilage using machine learning' |
| 692 | NGIRI-2024-26314 | MNS University of Agriculture, Multan | Main | Computing and Technology | 'Smart Living: An Enhanced Home Automation ' |
| 693 | NGIRI-2024-26436 | MNS University of Agriculture, Multan | Main | Computer System | 'Heritage Travels Augmented Reality Game' |
| 694 | NGIRI-2024-26553 | MNS University of Agriculture, Multan | Main | Computing and Technology | 'Gaze Guard:Advance Smart glasses for driver monitoring and collision prevention' |
| 695 | NGIRI-2024-27448 | MNS University of Agriculture, Multan | Main | Computer Science & IT | 'Proximity Based Mobile Detection System Using NFC Technology' |
| 696 | NGIRI-2024-27593 | MNS University of Agriculture, Multan | Main | Computer System Engineering | 'Sow Tech Robot' |
| 697 | NGIRI-2024-27770 | MNS University of Agriculture, Multan | Main | Computer Science & IT | 'Multipurpose CNC Laser Machine' |
| 698 | NGIRI-2024-27772 | MNS University of Agriculture, Multan | Main | Computer Science & IT | 'Hooves and Health: A Livestock Health Monitoring System' |
| 699 | NGIRI-2024-28129 | MNS University of Agriculture, Multan | Main | Computer Science | 'Deep Learning Classifies Nitrogen Deficiency in Wheat Crop' |
| 700 | NGIRI-2024-28577 | MNS University of Agriculture, Multan | Main | Computer Science | 'Soil Nutrients Monitoring ' |
| 701 | NGIRI-2024-29027 | MNS University of Agriculture, Multan | Main | Computer Science | 'AirWatch Monitoring System' |
| 702 | NGIRI-2024-24608 | Mohammad Ali Jinnah University | Karachi | Computer Science | '3D immersive Ecommerce' |
| 703 | NGIRI-2024-27903 | Mohammad Ali Jinnah University | Karachi | Computer System Engineering | 'TruthSight: Unmasking Lies with AI Facial Recognition' |
| 704 | NGIRI-2024-27905 | Mohammad Ali Jinnah University | Karachi | Computer System Engineering | 'Neuromorphic AI Control System for Smart Stoves' |
| 705 | NGIRI-2024-27909 | Mohammad Ali Jinnah University | Karachi | Computer System Engineering | 'IoT and Machine Learning based Energy Scheduling System for Residential Microgrid' |
| 706 | NGIRI-2024-27927 | Mohammad Ali Jinnah University | Karachi | Electrical Engineering | 'Flood control system using AI operated PLCs with SCADA integration' |
| 707 | NGIRI-2024-27928 | Mohammad Ali Jinnah University | Karachi | Electrical Engineering | 'Smart underwater vehicle surveillance system ' |
| 708 | NGIRI-2024-27931 | Mohammad Ali Jinnah University | Karachi | Electrical Engineering | 'Traffic driven wind turbine for sustainable energy generation' |
| 709 | NGIRI-2024-27957 | Mohammad Ali Jinnah University | Karachi | Computer System Engineering | 'AI Powered Vision Guardian AsI Third Eye For Blind People' |
| 710 | NGIRI-2024-28021 | Mohammad Ali Jinnah University | Karachi | Electrical Engineering | 'Bio Thermo Navigator' |
| 711 | NGIRI-2024-29328 | Mohammad Ali Jinnah University | Karachi | Computer Science | 'Vessel Dark Activity Detection' |
| 712 | NGIRI-2024-23808 | Muhammad Nawaz Sharif University of Engineering & Technology | Main | Electrical Engineering | 'An Eye for Blind' |
| 713 | NGIRI-2024-23910 | Muhammad Nawaz Sharif University of Engineering & Technology | Main | Electrical Engineering | 'Solar Hybrid Invertor With Advanced MPPT and PFC Techniques for Optimal Peak Performance with IOT Based Power Monitoring ' |
| 714 | NGIRI-2024-24397 | Muhammad Nawaz Sharif University of Engineering & Technology | Main | Electrical Engineering | 'Automatic Bottle Filling Capping and Labeling Station by using PLC' |
| 715 | NGIRI-2024-27496 | Muhammad Nawaz Sharif University of Engineering & Technology | Main | Electrical Engineering | 'Design soft starter for three phase induction motor using arduino with motor protection' |
| 716 | NGIRI-2024-27108 | Namal University, Mianwali | Main | Electrical Engineering | 'Design and Implementation of Pipelined RISCV Processor with RV32IC Support ' |
| 717 | NGIRI-2024-27349 | Namal University, Mianwali | Main | Electrical Engineering | 'Smart Foot Weight Analytics for Health Diagnosis' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| 718 | NGIRI-2024-27995 | Namal University, Mianwali | Main | Management and Information Sciences | 'Stock Price Prediction by using ML and its Application on Webpage (Namal SPOT) ' |
| 719 | NGIRI-2024-28061 | Namal University, Mianwali | Main | Computer System | 'Currency Detection System for blind people ' |
| 720 | NGIRI-2024-28194 | Namal University, Mianwali | Main | Electrical Engineering | 'Dual Power Generation System Using Wind Turbines and Solar Energy' |
| 721 | NGIRI-2024-29195 | Namal University, Mianwali | Main | Electrical Engineering | 'An Online Intelligent Rice Classification System ' |
| 722 | NGIRI-2024-24349 | National College of Business Administration & Economics (NCBA&E) | Bahawalpur | Computer Science | '3-D video encryption scheme using blockchain technology' |
| 723 | NGIRI-2024-23938 | National Skills University | Main | Information Technology | 'Tech Bin Bot' |
| 724 | NGIRI-2024-26789 | National Skills University | Main | Electrical Engineering | Design of a hybrid electric motorcycle for optimum fuelÂ consumption |
| 725 | NGIRI-2024-27005 | National Skills University | Main | Electrical Engineering | 'Industrial PV Dust Buster (IDB)' |
| 726 | NGIRI-2024-27011 | National Skills University | Main | Electrical Engineering | 'SunSync A Dual Axis Solar Tracker with Heat Utilization ' |
| 727 | NGIRI-2024-28672 | National Skills University | Main | Computer Science & IT | 'Smart Blind Stick' |
| 728 | NGIRI-2024-28848 | National Skills University | Main | Information Technology | 'Variable Head Solar Grass Cutter ' |
| 729 | NGIRI-2024-29104 | National Skills University | Main | Computer & Information System Engineering | 'Military Spying Robot' |
| 730 | NGIRI-2024-29295 | National Skills University | Main | Information Technology | 'IOT-Based Smart Helmet ' |
| 731 | NGIRI-2024-23782 | National Textile University | Main | Computer Science | 'Smart Video Object Analysis and Video Query Engine ' |
| 732 | NGIRI-2024-24280 | National Textile University | Main | Computer Science & IT | 'Persona Styler' |
| 733 | NGIRI-2024-24323 | National Textile University | Main | Computer Science | 'Vote Chain: Secure Voting with Biometric Authentication and Blockchain ' |
| 734 | NGIRI-2024-25218 | National Textile University | Main | Computer Science | 'Deepfake Image Analysis Using Spatial Features' |
| 735 | NGIRI-2024-29885 | National Textile University | Main | Computer Science | 'Next-Gen: Traffic Optimization using Deep Reinforcement Learning' |
| 736 | NGIRI-2024-23330 | National University of Computer and Emerging Sciences (FAST-NU) | Lahore | Electrical Engineering | 'Advanced Material Classification using Sensor Fusion and Machine Learning' |
| 737 | NGIRI-2024-23374 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Computer Science | 'F23-121-R-AutoMate' |
| 738 | NGIRI-2024-23763 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Software Engineering | 'Thera Play' |
| 739 | NGIRI-2024-24076 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Electrical Engineering | 'To design IoT based Aqua Flow and Pesticide Spraying Robotic Sprinkler' |
| 740 | NGIRI-2024-24564 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Electrical/Electronics Engineering | 'Implementation of Computer Numeric Control Machine to fabricate Laser induced garphene based Humidity Sensor' |
| 741 | NGIRI-2024-25180 | National University of Computer and Emerging Sciences (FAST-NU) | Peshawar | Computer Science | 'Smart Pillow' |
| 742 | NGIRI-2024-25510 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Electrical Engineering | 'OBD Sentinel IoT based Automobile OBD Monitoring System' |
| 743 | NGIRI-2024-25579 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Electrical Engineering | 'LiDAR based SLAM for creation of Digital Twins' |
| 744 | NGIRI-2024-25673 | National University of Computer and Emerging Sciences (FAST-NU) | Lahore | Electrical Engineering | 'Cotton Plant Disease Detection and its Cure using Machine Learning' |
| 745 | NGIRI-2024-25777 | National University of Computer and Emerging Sciences (FAST-NU) | Peshawar | Computer Science | 'Design and Development of Smart Electronic Pen' |
| 746 | NGIRI-2024-25918 | National University of Computer and Emerging Sciences (FAST-NU) | Peshawar | Software Engineering | 'Smart Underage Driver Detector ' |
| 747 | NGIRI-2024-26223 | National University of Computer and Emerging Sciences (FAST-NU) | Peshawar | Software Engineering | 'Bone Age Detection' |
| 748 | NGIRI-2024-26300 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Electrical Engineering | 'FPGA Implementation of a Deep Convolutional Neural Network for Surveillance Systems' |
| 749 | NGIRI-2024-26402 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Computer Science | 'Hallucination Detection in Language Textual Model Response' |
| 750 | NGIRI-2024-26418 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Computer Science | 'ARealm' |
| 751 | NGIRI-2024-26431 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Software Engineering | 'Fashion Vision' |
| 752 | NGIRI-2024-26521 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Electrical Engineering | 'Quality Assurance and Defect Detection System' |
| 753 | NGIRI-2024-26548 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Electrical Engineering | 'Building Damage and Defects Detecting System using AI and Computer Vision' |
| 754 | NGIRI-2024-26630 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Computer Science | 'Arabic Grammar Analyzer' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| 755 | NGIRI-2024-26649 | National University of Computer and Emerging Sciences (FAST-NU) | Lahore | Electrical Engineering | 'Smart Home Garden ' |
| 756 | NGIRI-2024-26790 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Software Engineering | 'Pawsitive Quest ' |
| 757 | NGIRI-2024-27054 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Computer Science | 'Virtual Glasses Try ON' |
| 758 | NGIRI-2024-27382 | National University of Computer and Emerging Sciences (FAST-NU) | Main | Electrical Engineering | 'Detection of Epilepsy Seizures in Neonatal EEG using Explainable AI' |
| 759 | NGIRI-2024-28364 | National University of Computer and Emerging Sciences (FAST-NU) | Lahore | Electrical Engineering | 'Search And Rescue Robot' |
| 760 | NGIRI-2024-29026 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Software Engineering | 'BrainTalk ' |
| 761 | NGIRI-2024-29236 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Computer Science | 'Jarvis: Urdu Voice Assistant ' |
| 762 | NGIRI-2024-29241 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Software Engineering | 'Information Flow Guided Grey Box Fuzzing for Smart Contract Systems' |
| 763 | NGIRI-2024-29249 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Computer Science | 'Smart Parking System' |
| 764 | NGIRI-2024-29251 | National University of Computer and Emerging Sciences (FAST-NU) | Chiniot-Faislabad | Computer Science | 'sewer defect detection robot' |
| 765 | NGIRI-2024-24032 | National University of Modern Languages | Rawalpindi | Computer Science | 'Development of a POS System for pharmacies with Data Warehousing and BI Solution for Improved Business Intelligence' |
| 766 | NGIRI-2024-24163 | National University of Modern Languages | Rawalpindi | Electrical Engineering | 'Smart Autonomous lawn mower ' |
| 767 | NGIRI-2024-24164 | National University of Modern Languages | Rawalpindi | Electrical/Electronics Engineering | 'Automatic power factor correction for variable loads using IOT ' |
| 768 | NGIRI-2024-24409 | National University of Modern Languages | Rawalpindi | Computer Engineering | 'Interactive speech emotion recognition system' |
| 769 | NGIRI-2024-24529 | National University of Modern Languages | Rawalpindi | Software Engineering | 'Smart Helmet with Voice Control' |
| 770 | NGIRI-2024-24615 | National University of Modern Languages | Islamabad | Electrical Engineering | 'Med Box: Smart Medication Remainder And Monitoring' |
| 771 | NGIRI-2024-25592 | National University of Modern Languages | Islamabad | Software Engineering | 'Explore Pakistan' |
| 772 | NGIRI-2024-25602 | National University of Modern Languages | Rawalpindi | Computer Science | 'Zakat Blockchain System' |
| 773 | NGIRI-2024-25631 | National University of Modern Languages | Rawalpindi | Computer Science | 'AR-BASED ONLINE FOOTWEAR PURCHASE APPLICATION' |
| 774 | NGIRI-2024-25707 | National University of Modern Languages | Islamabad | Computer Science | 'Object detection for visually impaired ' |
| 775 | NGIRI-2024-25722 | National University of Modern Languages | Islamabad | Software Engineering | 'ScholarSphere: NLP-Powered University Informant' |
| 776 | NGIRI-2024-25802 | National University of Modern Languages | Rawalpindi | Computer Science | 'Android-based object recognition application for visually impaired' |
| 777 | NGIRI-2024-25815 | National University of Modern Languages | Islamabad | Computer Science | 'Dysarthria voice reconstruction' |
| 778 | NGIRI-2024-25851 | National University of Modern Languages | Islamabad | Computer Science | 'Prediction Vehicle CO2 emissions in Islamabad: A Radius-based model' |
| 779 | NGIRI-2024-25852 | National University of Modern Languages | Islamabad | Software Engineering | 'Automated Usability and Design Testing' |
| 780 | NGIRI-2024-25874 | National University of Modern Languages | Islamabad | Computer Science | 'AIRRR: AI enabled tools for Resume Recommendation system for Recruiters' |
| 781 | NGIRI-2024-25971 | National University of Modern Languages | Islamabad | Software Engineering | 'Urovision kidney stone detection system' |
| 782 | NGIRI-2024-26679 | National University of Modern Languages | Faisalabad | Computer Science | 'EnergicView: An IOT Based Energy Monitoring' |
| 783 | NGIRI-2024-26717 | National University of Modern Languages | Rawalpindi | Electrical Engineering | 'Implementation Of Smart Helmet ' |
| 784 | NGIRI-2024-26818 | National University of Modern Languages | Islamabad | Electrical Engineering | 'Smart Shopping Trolley' |
| 785 | NGIRI-2024-26838 | National University of Modern Languages | Islamabad | Electrical Engineering | 'AN IoT BASED OIL SKIMMING BOAT' |
| 786 | NGIRI-2024-26899 | National University of Modern Languages | Faisalabad | Computer Science | 'Human Identification Using Dental features' |
| 787 | NGIRI-2024-27305 | National University of Modern Languages | Faisalabad | Computer Science | 'Plant care info and leaf disease detection' |
| 788 | NGIRI-2024-27355 | National University of Modern Languages | Islamabad | Electronics | 'Iot based smart utility control system ' |
| 789 | NGIRI-2024-28060 | National University of Modern Languages | Islamabad | Electrical Engineering | 'Cameras enabled Robotic Arm for Smart Inventory Management System' |
| 790 | NGIRI-2024-28546 | National University of Modern Languages | Faisalabad | Computer Science | 'MediGan: Synthetic Data Generation and Multi-Model Learning for Accurate Medical Image Classification' |
| 791 | NGIRI-2024-23305 | National University of Science and Technology (NUST) | Main | Software Engineering | 'Augmented Reality Based Immersive Interior Designer ARIID' |
| 792 | NGIRI-2024-23306 | National University of Science and Technology (NUST) | MCS | Electrical Engineering | 'Machine Learning Accelerator on Low Cost ZYNQ SoC Based FPGA' |
| 793 | NGIRI-2024-23362 | National University of Science and Technology (NUST) | MCS | Software Engineering | 'AudioX' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 794 | NGIRI-2024-23457 | National University of Science and Technology (NUST) | Main | Electrical Engineering | 'IoT Based Air Pollution Detection for Healthcare' |
| 795 | NGIRI-2024-23501 | National University of Science and Technology (NUST) | CEME | Mechanical Engineering | 'Design and Fabrication of Laser Weeding Robot' |
| 796 | NGIRI-2024-23503 | National University of Science and Technology (NUST) | Main | Computer Science | 'Securing Pharmaceutical Supply Chain using Blockchain' |
| 797 | NGIRI-2024-23541 | National University of Science and Technology (NUST) | MCS | Telecom Engineering | 'Smart Solar AgroTech: Low Cost Zigbee Mesh Network' |
| 798 | NGIRI-2024-23549 | National University of Science and Technology (NUST) | (PNEC) Pakistan Naval Engineering College | Electrical Engineering | 'DESIGN AND DEVELOPMENT OF PROTYPE FOR HYBRID DRIVER SAFETY AND MONITORING SYSTEM USING ARTIFICIAL INTELLIGENCE ' |
| 799 | NGIRI-2024-23631 | National University of Science and Technology (NUST) | (PNEC) Pakistan Naval Engineering College | Electrical Engineering | 'IOT Based Energy Management System for Optimal Energy Consumption in Residential Facilities' |
| 800 | NGIRI-2024-23688 | National University of Science and Technology (NUST) | CEME | Computer Engineering | 'Structural Analysis and Forecasting Engine' |
| 801 | NGIRI-2024-23706 | National University of Science and Technology (NUST) | CEME | Mechanical Engineering | 'Design and Fabrication of three body abrasive wear test rig' |
| 802 | NGIRI-2024-23730 | National University of Science and Technology (NUST) | Main | Computer Science | 'OptiGuard Generalized, Attention-Driven & Explainable Glaucoma Classification' |
| 803 | NGIRI-2024-23731 | National University of Science and Technology (NUST) | Main | Computer Science & IT | 'Textual Report Generation of Chest Radiographs using Deep Learning' |
| 804 | NGIRI-2024-23917 | National University of Science and Technology (NUST) | Main | Electrical Engineering | 'Autizen' |
| 805 | NGIRI-2024-23975 | National University of Science and Technology (NUST) | CEME | Electrical Engineering | 'Design and Implementation of a Robotic System for Real-time Water Quality Assessment and Underwater Environment Monitoring' |
| 806 | NGIRI-2024-24065 | National University of Science and Technology (NUST) | Main | Computer Science | 'SCIVERSE II A CHEMICAL LABORATORY SYSTEM DEVELOPED IN VIRTUAL REALITY WITH AI GUIDED LEARNING' |
| 807 | NGIRI-2024-24079 | National University of Science and Technology (NUST) | Main | Computer Science | 'Edu connect ' |
| 808 | NGIRI-2024-24088 | National University of Science and Technology (NUST) | MCS | Software Engineering | 'DataDialogue' |
| 809 | NGIRI-2024-24099 | National University of Science and Technology (NUST) | MCS | Electrical Engineering | 'Design of Home-Hub Controller IC and its functionality implementation onÂ FPGA' |
| 810 | NGIRI-2024-24211 | National University of Science and Technology (NUST) | Quetta | Computer Science | 'Advanced Machine Learning-Based Human Classification and Multi-Subject Surveillance System' |
| 811 | NGIRI-2024-24258 | National University of Science and Technology (NUST) | (PNEC) Pakistan Naval Engineering College | Electrical Engineering | 'Precision Farming through UAV and UGV ' |
| 812 | NGIRI-2024-24335 | National University of Science and Technology (NUST) | Main | Mechanical Engineering | 'Design and Development of Quadrupedal Robot' |
| 813 | NGIRI-2024-24771 | National University of Science and Technology (NUST) | MCS | Electrical Engineering | 'AI-based Fault Diagnosis of Car Engines Using Multi-Sensor Data Fusion' |
| 814 | NGIRI-2024-25652 | National University of Science and Technology (NUST) | Main | Electrical Engineering | 'Elderly People Fall Detection System Using mm-Wave Radar Technology ' |
| 815 | NGIRI-2024-25939 | National University of Science and Technology (NUST) | MCS | Electrical Engineering | 'Food Grading Device For Sugarcane Juice Analysis' |
| 816 | NGIRI-2024-26242 | National University of Science and Technology (NUST) | MCS | Engineering and Sciences | 'Offensive AI' |
| 817 | NGIRI-2024-26836 | National University of Science and Technology (NUST) | Main | Electrical Engineering | 'Solar-Powered Desalination for Sustainable Freshwater Production' |
| 818 | NGIRI-2024-26866 | National University of Science and Technology (NUST) | CEME | Computer Engineering | 'Virtual Law Assistant: An AI enabled chatbot to guide in Legal Issues' |
| 819 | NGIRI-2024-27428 | National University of Science and Technology (NUST) | Main | Computer & Information System Engineering | 'VR based Training Modules for GLOF Mitigation' |
| 820 | NGIRI-2024-27654 | National University of Science and Technology (NUST) | Main | Civil Engineering | 'Formulation of Printable Mix Design for Prefabricated Modular Construction' |
| 821 | NGIRI-2024-27893 | National University of Science and Technology (NUST) | CEME | Computer Engineering | 'Smart Stethoscope' |
| 822 | NGIRI-2024-28226 | National University of Science and Technology (NUST) | CEME | Electrical Engineering | 'Smart cane for visually impaired ' |
| 823 | NGIRI-2024-28259 | National University of Science and Technology (NUST) | CEME | Computer Engineering | 'AI-DRIVEN VIRTUAL STAINING APPLICATION FOR HEMATOLOGICAL PRECISION' |
| 824 | NGIRI-2024-28304 | National University of Science and Technology (NUST) | MCS | Software Engineering | 'AI GALLERY GENIE Where Images meets Intelligence' |
| 825 | NGIRI-2024-28386 | National University of Science and Technology (NUST) | CEME | Mechanical Engineering | 'Study Of Open Hole Tensile Behavior Using Synthetic/natural Fibers Hybrid Composites' |
| 826 | NGIRI-2024-28504 | National University of Science and Technology (NUST) | CEME | Biomedical Engineering | 'Deciphering Brain Waves: UNet Empowered P300 EEG Classification' |
| 827 | NGIRI-2024-28506 | National University of Science and Technology (NUST) | CEME | Electrical | 'BloodCell Counting Using Image Processing and Machine Learning' |
| 828 | NGIRI-2024-28750 | National University of Science and Technology (NUST) | Main | Civil Engineering | 'Semi automatic Mason ' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| 829 | NGIRI-2024-28756 | National University of Science and Technology (NUST) | (PNEC) Pakistan Naval Engineering College | Electrical Engineering | 'Iot based refrigerator monitoring system' |
| 830 | NGIRI-2024-28854 | National University of Science and Technology (NUST) | Main | Science & Technology | 'Swipe vs play' |
| 831 | NGIRI-2024-29228 | National University of Science and Technology (NUST) | CEME | Mechanical Engineering | 'DESIGN AND FABRICATION OF EMG BASED ACTIVATION AND PROPORTIONAL LOWER LIMB REHABILITATION DEVICE' |
| 832 | NGIRI-2024-29298 | National University of Science and Technology (NUST) | Main | Mechanical Engineering | 'Design and Manufacturing of a VTOL QuadPlane with Foldable Arms' |
| 833 | NGIRI-2024-29360 | National University of Science and Technology (NUST) | Main | Mechanical Engineering | 'Design And Implementation Of Optimized Multi-Target Aerial Delivery System For Flood Relief Packages' |
| 834 | NGIRI-2024-29659 | National University of Science and Technology (NUST) | CEME | Mechatronics Engineering | 'SceneScribe - AI Enabled Intelligent Glasses for Assistance of Visually Impaired' |
| 835 | NGIRI-2024-23870 | National University of Technology (NUTECH), Islamabad | Islamabad | Electrical Engineering | 'Design and Development of Human Following Robotic Trolley Auto-Walker using Machine Learning' |
| 836 | NGIRI-2024-23995 | National University of Technology (NUTECH), Islamabad | Islamabad | Electrical Engineering | 'Water Generation from atmospheric air for remote water deficient area' |
| 837 | NGIRI-2024-24009 | National University of Technology (NUTECH), Islamabad | Islamabad | Electrical Engineering | 'Wireless power transfer: Wireless charger for Electric vehicles ' |
| 838 | NGIRI-2024-24395 | National University of Technology (NUTECH), Islamabad | Islamabad | Electrical Engineering | 'Design And Development of Power Bank Using Super Capacitors' |
| 839 | NGIRI-2024-26224 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Science | 'Financial Circular's Hub using web scraping automation and AI' |
| 840 | NGIRI-2024-26229 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Engineering | 'AI-Powered Assessment tool for Individual Lacking Presentation and Communication Skills' |
| 841 | NGIRI-2024-26233 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Engineering | 'Human Pose Estimation Advance Driver Assistance System' |
| 842 | NGIRI-2024-26246 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Science | 'Sales Forecasting Tool For E-commerce' |
| 843 | NGIRI-2024-26323 | National University of Technology (NUTECH), Islamabad | Islamabad | Civil Engineering | 'Material optimization using machine learning for the fire endurance of high strength concretes' |
| 844 | NGIRI-2024-26410 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Engineering | 'Programmable Robotic Arm Assembly Line ' |
| 845 | NGIRI-2024-26483 | National University of Technology (NUTECH), Islamabad | Islamabad | Civil Engineering | 'Structural Health Monitoring using Machine Learning' |
| 846 | NGIRI-2024-27221 | National University of Technology (NUTECH), Islamabad | Islamabad | Mechanical Engineering | 'Design and Model Fabrication of Solar Water Desalination System' |
| 847 | NGIRI-2024-27554 | National University of Technology (NUTECH), Islamabad | Islamabad | Mechanical Engineering | 'Detachable Cost Effective Road Cleaning System ' |
| 848 | NGIRI-2024-28303 | National University of Technology (NUTECH), Islamabad | Islamabad | Computer Engineering | 'AI Empowered ' |
| 849 | NGIRI-2024-23455 | Nazeer Hussain University | Main | Computer Science | 'Brain tumor detection and Classification By Using DeepLearning Model' |
| 850 | NGIRI-2024-24067 | Nazeer Hussain University | Main | Computer Science | 'Lumpy Skin Disease Detection' |
| 851 | NGIRI-2024-25337 | Nazeer Hussain University | Main | Computer Science | 'Police criminal detection system utilizing AI technology' |
| 852 | NGIRI-2024-23354 | NED University of Engineering & Technology | Karachi | Engineering and Sciences | 'AI Vision-based Inspection System for Quality Control of Products' |
| 853 | NGIRI-2024-23512 | NED University of Engineering & Technology | Karachi | Software Engineering | 'Enhancing E-Bike Sustainability with Health Monitoring and Battery Swapping Infrastructure' |
| 854 | NGIRI-2024-23895 | NED University of Engineering & Technology | Karachi | Biomedical Engineering | 'Enhancing mobility and independence with a robotic trunk assistive device' |
| 855 | NGIRI-2024-24125 | NED University of Engineering & Technology | Karachi | Electronics Engineeering | 'Smart Inclined Mobility Impovering disabled indivisuals with IOT wheelchair lifters for stairs' |
| 856 | NGIRI-2024-24248 | NED University of Engineering & Technology | Karachi | Electronics | 'PureZone Autonomous UV and Fog Disinfection Rover' |
| 857 | NGIRI-2024-24332 | NED University of Engineering & Technology | Karachi | Telecom Engineering | 'Beyond Sight: A Real-Time Navigation System for Visually Impaired' |
| 858 | NGIRI-2024-24524 | NED University of Engineering & Technology | Karachi | Telecom Engineering | 'Brainwave-Driven Robotics: Decoding Motor Imagery EEG Signals for Robotic Arm Control using Deep Learning.' |
| 859 | NGIRI-2024-24625 | NED University of Engineering & Technology | Karachi | Biomedical Engineering | 'Plasma electrolytic oxidation coating on magnesium metal for biologically active hard tissue.' |
| 860 | NGIRI-2024-24630 | NED University of Engineering & Technology | Karachi | Biomedical Engineering | 'DESIGN AND DEVELOPMENT OF SMART ELECTROTHERAPY UNIT' |
| 861 | NGIRI-2024-24665 | NED University of Engineering & Technology | Karachi | Computer Science & IT | 'Game Application For Islamic Awareness' |
| 862 | NGIRI-2024-24710 | NED University of Engineering & Technology | Karachi | Software Engineering | 'Development of AI-Driven Algorithms for Maximizing Rabi Crops Yield' |
| 863 | NGIRI-2024-24724 | NED University of Engineering & Technology | Karachi | Software Engineering | 'RevivePK: Transforming Transportation, Healthcare and Financial Well-being' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 864 | NGIRI-2024-24734 | NED University of Engineering & Technology | Karachi | Computer Science & IT | 'A biometric system for elderly people using eye detection' |
| 865 | NGIRI-2024-24784 | NED University of Engineering & Technology | Karachi | Computer System Engineering | 'Defects Identification on Piston Rods and Pipe Fork for Quality Control in Automotive Manufacturing.' |
| 866 | NGIRI-2024-24819 | NED University of Engineering & Technology | Karachi | Computer System Engineering | 'Urdu to Braille Bridging Literacy and Access for the Blind' |
| 867 | NGIRI-2024-25100 | NED University of Engineering & Technology | Karachi | Electronics | 'Design and Development of an Optimized, Dynamic and Intelligent Battery Management Software Infrastructure' |
| 868 | NGIRI-2024-25133 | NED University of Engineering & Technology | Karachi | Mechanical Engineering | 'Fabrication and Characterization of Hollow yarn' |
| 869 | NGIRI-2024-25168 | NED University of Engineering & Technology | Karachi | Electronics Engineeering | 'VeinPro Device Using AVI Navigation' |
| 870 | NGIRI-2024-25207 | NED University of Engineering & Technology | Karachi | Computer System Engineering | 'universal plug n play oem support and personalized assistance' |
| 871 | NGIRI-2024-25224 | NED University of Engineering & Technology | Karachi | Software Engineering | 'AdalNow Justice for Her' |
| 872 | NGIRI-2024-25232 | NED University of Engineering & Technology | Karachi | Biomedical Engineering | 'Adhesive and Anti-Corrosive Composite Coating and Characterization of AZ31 Mg Alloy Substrate for Biomedical Implant Applications.' |
| 873 | NGIRI-2024-25242 | NED University of Engineering & Technology | Karachi | Telecom Engineering | 'AI-Based EEG Model Deployment for Major Depressive Disorder Diagnosis on Embedded Systems' |
| 874 | NGIRI-2024-25309 | NED University of Engineering & Technology | Karachi | Engineering and Sciences | 'Development of IoT Weather Station with NED Local MQTT broker and Dashboard' |
| 875 | NGIRI-2024-25586 | NED University of Engineering & Technology | Karachi | Electronics Engineeering | 'Tablet Guard- a load cell based quality assurance system with image Processing' |
| 876 | NGIRI-2024-25610 | NED University of Engineering & Technology | Karachi | Electrical Engineering | 'Development of a Myoelectric Prosthetic Arm' |
| 877 | NGIRI-2024-25628 | NED University of Engineering & Technology | Karachi | Computer & Information System Engineering | 'Personal Protective Equipment (PPE) Monitoring and Violation Alert System for Factory Floor Safety' |
| 878 | NGIRI-2024-25656 | NED University of Engineering & Technology | Karachi | Electrical Engineering | 'Design and Development of an Ocean Wave Energy Conversion System (OWECS) for Sustainable Power Generation' |
| 879 | NGIRI-2024-25901 | NED University of Engineering & Technology | Karachi | Electronics Engineeering | 'Intelligent Brain Tumor Detection Gizmo with Radiological Report Generation' |
| 880 | NGIRI-2024-25947 | NED University of Engineering & Technology | Karachi | Engineering and Sciences | 'Performance Evaluation of ZigBee in indoor and outdoor environment ' |
| 881 | NGIRI-2024-26199 | NED University of Engineering & Technology | Karachi | Computer & Information System Engineering | 'Data Vision Pro' |
| 882 | NGIRI-2024-26214 | NED University of Engineering & Technology | Karachi | Electrical Engineering | 'Design of an Intelligent Algorithm for CPAP Machine to Treat Sleep Apnea Patients' |
| 883 | NGIRI-2024-26307 | NED University of Engineering & Technology | Karachi | Electrical Engineering | 'Design of a Walking Algorithm of WatchDog Robot for Rescue and Surveillance Applications ' |
| 884 | NGIRI-2024-26352 | NED University of Engineering & Technology | Karachi | Computer Science & IT | 'A Blockchain based e-commerce platform with the state of the art, supply chain management, authenticated resale and genuine reviews' |
| 885 | NGIRI-2024-26446 | NED University of Engineering & Technology | Karachi | Computer Science & IT | 'A transparent and traceable aid assistance platform based on Blockchain technology' |
| 886 | NGIRI-2024-26538 | NED University of Engineering & Technology | Karachi | Computer & Information System Engineering | 'FPGA-Driven Real-Time Pakistan Sign Language Recognition System' |
| 887 | NGIRI-2024-26900 | NED University of Engineering & Technology | Karachi | Electrical | 'Design of data acquisition system for high-speed sampled value transmission and power quality system up to 20th harmonic' |
| 888 | NGIRI-2024-27350 | NED University of Engineering & Technology | Karachi | Civil Engineering | 'THERMAL COMFORT MODELING OF AN ACADEMIC BUILDING' |
| 889 | NGIRI-2024-27397 | NED University of Engineering & Technology | Karachi | Computer & Information System Engineering | 'LogiSync-Streamlining Last Mile Logistics Through Map Matching Based Tracking For Logistics Companies' |
| 890 | NGIRI-2024-27413 | NED University of Engineering & Technology | Karachi | Computer System Engineering | 'Rice Grain Variety Classification Through Deep Learning' |
| 891 | NGIRI-2024-27671 | NED University of Engineering & Technology | Karachi | Civil Engineering | 'Water Shops and Groundwater Monitoring System for Climate Resilience ' |
| 892 | NGIRI-2024-28273 | NED University of Engineering & Technology | Karachi | Mechanical Engineering | 'Development of a Digital Twin Framework for Turbomachinery ' |
| 893 | NGIRI-2024-28385 | NED University of Engineering & Technology | Karachi | Civil Engineering | 'Mapping and Assessment of Urban Heat Island Effect In The Built Environment of Karachi' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 894 | NGIRI-2024-28723 | NED University of Engineering & Technology | Karachi | Electrical | 'Synthetic Data Creation for Motor Prognostic using Digital Twin ' |
| 895 | NGIRI-2024-28747 | NED University of Engineering & Technology | Karachi | Telecom Engineering | 'ML-Enhanced IoT-based Electrocardiogram (ECG) Monitoring System for Patient-Centric Solution' |
| 896 | NGIRI-2024-28811 | NED University of Engineering & Technology | Karachi | Science & Technology | 'Enhancing Dental Health through AI for Diagnostic Accuracy' |
| 897 | NGIRI-2024-28861 | NED University of Engineering & Technology | Karachi | Civil Engineering | 'High Performance Textile Based Composite System for Retrofitting Application' |
| 898 | NGIRI-2024-29538 | NED University of Engineering & Technology | Karachi | Computer Science | 'Fashion Fusion Modeled Based Product Visualization ECommerce Web Store' |
| 899 | NGIRI-2024-25590 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electrical Engineering | 'Short term voltage stability of wind assisted micro grid using STATCOM ' |
| 900 | NGIRI-2024-25599 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electronics Engineeering | 'Crop diseases recognition and detection system ' |
| 901 | NGIRI-2024-25625 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electrical Engineering | 'Real time monitoring and optimization of electrical load in a building. ' |
| 902 | NGIRI-2024-26095 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electrical Engineering | 'AI powered Lung cancer detection using CT imaging' |
| 903 | NGIRI-2024-27342 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Computer Science | 'Smart Proactive Monitoring against Air Pollution' |
| 904 | NGIRI-2024-27840 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Computer Science | 'Smart Parking System' |
| 905 | NGIRI-2024-29437 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electrical Engineering | 'Unleashing the Potential of Automatic Segmentation Detection and Classification with an Advanced Computer Aided System' |
| 906 | NGIRI-2024-29455 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Electrical | 'Automatic Agricultural Sprayer Machine' |
| 907 | NGIRI-2024-29713 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Computer Science | 'SmartWasteMate' |
| 908 | NGIRI-2024-29949 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Engineering and Sciences | 'Production Of Glucose From Corn Starch' |
| 909 | NGIRI-2024-29954 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Energy System Engineering | 'SYNTHESIS OF SODIUM ION BATTERIES ' |
| 910 | NGIRI-2024-30198 | NFC Institute of Engineerign and Technology (NFC-UET) | Multan | Engineering and Sciences | 'Synthesis of Indigenous zeolite for carbon dioxide capturing ' |
| 911 | NGIRI-2024-23361 | PAF Karachi Institute of Economics and Technology | Main | Computer Science | 'RoboCircuit' |
| 912 | NGIRI-2024-23981 | PAF Karachi Institute of Economics and Technology | North Campus | Computer Science | 'Advance Cricket Coaching System' |
| 913 | NGIRI-2024-24010 | PAF Karachi Institute of Economics and Technology | Main | Computer Science | 'TouchCode' |
| 914 | NGIRI-2024-25113 | PAF Karachi Institute of Economics and Technology | Main | Electrical/Electronics Engineering | 'Design and development of computer vision based adaptive headlights' |
| 915 | NGIRI-2024-25299 | PAF Karachi Institute of Economics and Technology | Main | Computer Science | 'Vernacular Inbox' |
| 916 | NGIRI-2024-25345 | PAF Karachi Institute of Economics and Technology | North Campus | Computer Science | 'DecoAR' |
| 917 | NGIRI-2024-26848 | PAF Karachi Institute of Economics and Technology | Main | Software Engineering | 'Admission Sensei' |
| 918 | NGIRI-2024-26873 | PAF Karachi Institute of Economics and Technology | Main | Mechatronics Engineering | 'Automation of Balometer used in HVAC Systems' |
| 919 | NGIRI-2024-27280 | PAF Karachi Institute of Economics and Technology | Main | Mechatronics Engineering | 'Development of a 4-Axis Selective Compliance Assembly Robot Arm ' |
| 920 | NGIRI-2024-27301 | PAF Karachi Institute of Economics and Technology | Main | Avionics Engineering | 'InfinityBot Advance computer vision based VR interface robot for military and scientific applications' |
| 921 | NGIRI-2024-27398 | PAF Karachi Institute of Economics and Technology | Main | Avionics Engineering | 'Fly By Gloves: Robotic Arm Controlled With Gesture Glove' |
| 922 | NGIRI-2024-27412 | PAF Karachi Institute of Economics and Technology | Main | Avionics Engineering | 'Smart Antenna Design using Bifilar Helical Adaptive Antenna Array for ISM Band' |
| 923 | NGIRI-2024-27790 | PAF Karachi Institute of Economics and Technology | Main | Software Engineering | 'Augmented Reality based Unmanned Ground Vehicle' |
| 924 | NGIRI-2024-28274 | PAF Karachi Institute of Economics and Technology | Main | Software Engineering | 'AI Anti Cheat Invigilation Tool' |
| 925 | NGIRI-2024-29064 | PAF Karachi Institute of Economics and Technology | Main | Electrical | 'Design and Development of an Intelligent Healthcare Chatbot using NLP with preminilary Disease Diagnosis ' |
| 926 | NGIRI-2024-24852 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Electrical Engineering | 'Design of Hybrid Power Management Unit for the operation of Point Machine System in Pakistan Railway for efficient traffic control' |
| 927 | NGIRI-2024-24867 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Electrical Engineering | 'Digital Controlled Intelligent Battery Management System' |
| 928 | NGIRI-2024-26452 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Electrical Engineering | 'Intellegent Energy Management system for Multiple buildings at low voltages' |
| 929 | NGIRI-2024-27487 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Electrical Engineering | 'Lightweight Electric Bike Using Lithium-Ion Battery and Hub Motor to Enhance Mileage' |
| 930 | NGIRI-2024-28561 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Computer Science & IT | 'Hive Sentinel The Hackers Confine' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 931 | NGIRI-2024-29591 | Pak-Austria Fachhochschule Institute of Applied Sciences & Technology | Main | Computer Science & IT | 'Solosavor Journeys' |
| 932 | NGIRI-2024-23611 | PMAS - Arid Agriculture University | University Institute of Information Technology | UIIT | 'IoT based smart security surveillance robot' |
| 933 | NGIRI-2024-24020 | PMAS - Arid Agriculture University | University Institute of Information Technology | Software Engineering | 'Android Assembly Verification with Block chain' |
| 934 | NGIRI-2024-24334 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science | 'NextGenLiving' |
| 935 | NGIRI-2024-26930 | PMAS - Arid Agriculture University | University Institute of Information Technology | Software Engineering | 'Dengue Larvae Classification' |
| 936 | NGIRI-2024-26944 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science & IT | 'FashionXpert' |
| 937 | NGIRI-2024-26975 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science | 'Smart Agri Tech' |
| 938 | NGIRI-2024-27334 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science | 'AIfluence AI based Streamlined Collaborations' |
| 939 | NGIRI-2024-27340 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science | 'VertiBlockX' |
| 940 | NGIRI-2024-27451 | PMAS - Arid Agriculture University | University Institute of Information Technology | Information Technology | 'MobFix' |
| 941 | NGIRI-2024-27524 | PMAS - Arid Agriculture University | University Institute of Information Technology | Computer Science & IT | 'Assessment Framework for FYPs' |
| 942 | NGIRI-2024-27650 | PMAS - Arid Agriculture University | University Institute of Information Technology | UIIT | 'EV CONNECT PLUS' |
| 943 | NGIRI-2024-28230 | PMAS - Arid Agriculture University | University Institute of Information Technology | Software Engineering | 'IntelliFirewall' |
| 944 | NGIRI-2024-28533 | PMAS - Arid Agriculture University | University Institute of Information Technology | UIIT | 'DigiPhysio' |
| 945 | NGIRI-2024-28644 | PMAS - Arid Agriculture University | University Institute of Information Technology | UIIT | 'MediConnect Nexus' |
| 946 | NGIRI-2024-28803 | PMAS - Arid Agriculture University | University Institute of Information Technology | Software Engineering | 'GeoSpatial Based Dashboard For Electric Vehicles' |
| 947 | NGIRI-2024-28847 | PMAS - Arid Agriculture University | University Institute of Information Technology | Information & Communication Technology | 'Lingo Learn With AI' |
| 948 | NGIRI-2024-23407 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Electronics Engineeering | 'Data Transmission using LiFi technology ' |
| 949 | NGIRI-2024-23534 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Electronics Engineeering | 'Implementation of a device to convert regular gas geyser into smart geyser' |
| 950 | NGIRI-2024-23545 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Software Engineering | 'University Point Tracking System' |
| 951 | NGIRI-2024-23672 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Electronics Engineeering | 'Scan-n-Shop Smart Cart for shopping purpose' |
| 952 | NGIRI-2024-23693 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Electronics | 'Aquaponic System ' |
| 953 | NGIRI-2024-24082 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer Science | 'UAV for Search and Rescue Operation' |
| 954 | NGIRI-2024-24820 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer Science | 'Detect O Drive' |
| 955 | NGIRI-2024-25046 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Software Engineering | '3D virtual tour of QUEST Nawabshah' |
| 956 | NGIRI-2024-25166 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer System Engineering | 'Design & Implementation of Xen Hypervisor on ARMv8-A Architecture' |
| 957 | NGIRI-2024-25196 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Software Engineering | 'Water Quality Prediction using Machine Learning aka AquaInsightz' |
| 958 | NGIRI-2024-26241 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer Science | 'Tracking System for Mentally Impaired Children' |
| 959 | NGIRI-2024-26440 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Electronics Engineeering | 'Prototype Development of an IoT-based Reading Monitoring and Theft Detection Mechanism for Energy Meters' |
| 960 | NGIRI-2024-27690 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Science & Technology | 'Manufacturing of Sustainable and Eco-friendly Paving Materials from Discarded Plastics' |
| 961 | NGIRI-2024-27777 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Software Engineering | 'Reconstruction and Restoration of King Priest of Mohenjo Daro Using Deep Learning' |
| 962 | NGIRI-2024-27847 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Information Technology | 'AI Chatbot personal assistant voice recognition ' |
| 963 | NGIRI-2024-27940 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer Science | 'Heart Disease Prediction using Machine Learning' |
| 964 | NGIRI-2024-28115 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer Science & IT | 'Sindhi words recognition using Convolutional Neural Network' |
| 965 | NGIRI-2024-28119 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Energy System Engineering | 'Design and Optimization of Flat Plate Solar Collectors for Enhanced Efficiency and Performanceu' |
| 966 | NGIRI-2024-28268 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Science & Technology | 'STUDY PHYSIOCHEMICAL PARAMETERS OF DRINKING WATER MIRPURKHAS CITY' |
| 967 | NGIRI-2024-28486 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Energy System Engineering | 'Parabolic trough collector ' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 968 | NGIRI-2024-29661 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Computer System Engineering | 'Smart ECG Monitoring system To detect cardiac disease using Deep learning and Arduino' |
| 969 | NGIRI-2024-30185 | Quaid-e-Awam University of Engineering, Science & Technology (QUEST) | Nawabshah | Mechanical Engineering | 'Design Fabrication of Springless suspension with bevel gear' |
| 970 | NGIRI-2024-25664 | Quaid-e-Azam University | Main | Computer Science & IT | 'Drone Navigation Using Reinforcement Learning ' |
| 971 | NGIRI-2024-26055 | Quaid-e-Azam University | Main | Computer Science | ' Smart Parking Monitoring System' |
| 972 | NGIRI-2024-29563 | Quaid-e-Azam University | Main | Computer Science | 'Data warehouse for glacier lakes outburst floods ' |
| 973 | NGIRI-2024-29689 | Qurtaba University of Science & Information Technology | Peshawar | Computer Science | 'AUGMENTED PHARMACY' |
| 974 | NGIRI-2024-29704 | Qurtaba University of Science & Information Technology | Peshawar | Computer Science | 'Virtual Mouse' |
| 975 | NGIRI-2024-29741 | Qurtaba University of Science & Information Technology | Peshawar | Computer Science | 'Smart Bin' |
| 976 | NGIRI-2024-29961 | Qurtaba University of Science & Information Technology | Peshawar | Computer Science | 'Smart Gas Detector ' |
| 977 | NGIRI-2024-24051 | Rawalpindi Women University, Rawalpindi | Main | Computer Science | 'kinderlib' |
| 978 | NGIRI-2024-24488 | Rawalpindi Women University, Rawalpindi | Main | Information Technology | 'Smart AI Lantern' |
| 979 | NGIRI-2024-23271 | Riphah International University | Islamabad | Software Engineering | 'Pak Agro Vertical Farming' |
| 980 | NGIRI-2024-23540 | Riphah International University | Islamabad | Biomedical Engineering | 'Design and Development of low-cost Infant Warmer for developing countries ' |
| 981 | NGIRI-2024-24598 | Riphah International University | Islamabad | Computer Science | 'IslamXplorer ' |
| 982 | NGIRI-2024-24603 | Riphah International University | Islamabad | Computer Science | 'Maternity Health Care' |
| 983 | NGIRI-2024-24604 | Riphah International University | Islamabad | Software Engineering | 'Home Designer' |
| 984 | NGIRI-2024-24675 | Riphah International University | Islamabad | Computer Science | 'Blockchain inspired e-voting app' |
| 985 | NGIRI-2024-24678 | Riphah International University | Islamabad | Computer Science | 'Legal adviser ' |
| 986 | NGIRI-2024-25010 | Riphah International University | Gulberg Green | Computer Science & IT | 'Baby Guard' |
| 987 | NGIRI-2024-25093 | Riphah International University | Lahore | Electrical Engineering | 'Development of a Hydrogen Fuel Cell Prototype Vehicle Supported by Artificial Intelligence for Green Transport' |
| 988 | NGIRI-2024-25098 | Riphah International University | Lahore | Electrical Engineering | 'AI-Powered Optimized battery Health and Speed Recommendations system for E-Bikes' |
| 989 | NGIRI-2024-25124 | Riphah International University | Lahore | Electrical Engineering | 'Solid state power generation from waste material' |
| 990 | NGIRI-2024-25140 | Riphah International University | Gulberg Green | Computer Science | 'Fake Vision ' |
| 991 | NGIRI-2024-25187 | Riphah International University | Gulberg Green | Information Technology | 'BinVigil' |
| 992 | NGIRI-2024-25226 | Riphah International University | Gulberg Green | Computer Science | 'Plant Guard' |
| 993 | NGIRI-2024-25228 | Riphah International University | Gulberg Green | Computer Science | 'VisionX' |
| 994 | NGIRI-2024-25248 | Riphah International University | Faisalabad | Computing and Technology | 'Blockchain Security Toolkit' |
| 995 | NGIRI-2024-25322 | Riphah International University | Faisalabad | Electrical Engineering | ' Smart Infant Incubator with Real-time Monitoring and Controlling' |
| 996 | NGIRI-2024-25379 | Riphah International University | Faisalabad | Electrical Engineering | 'An IoT Based Load Automation and Energy Management System for Smart Home' |
| 997 | NGIRI-2024-25473 | Riphah International University | Faisalabad | Computer Science | 'FYP Assist' |
| 998 | NGIRI-2024-25566 | Riphah International University | Lahore | Electrical Engineering | 'Bidirectional Dc Dc Power Converter for Smart Grid Applications' |
| 999 | NGIRI-2024-25880 | Riphah International University | Faisalabad | Computer Science | 'Neuron Service Tech ' |
| 1000 | NGIRI-2024-26190 | Riphah International University | Faisalabad | Department of Electrical Technology | 'Development of IoT-based Weather Station for the Prediction of Renewable Energy Potential' |
| 1001 | NGIRI-2024-26303 | Riphah International University | Faisalabad | Electrical Engineering | 'Bio Energy Generation using Solar Power Microbial Electrolysis Cell' |
| 1002 | NGIRI-2024-26502 | Riphah International University | Malakand | Computer Science | 'Pharmaceutical Distribution system ' |
| 1003 | NGIRI-2024-27527 | Riphah International University | Islamabad | Electrical | 'Design and Fabrication of RF Wireless Power Harvesting Systems ' |
| 1004 | NGIRI-2024-27543 | Riphah International University | Islamabad | Electrical Engineering | 'Design and Development of infant incubator' |
| 1005 | NGIRI-2024-27566 | Riphah International University | Islamabad | Electrical Engineering | 'Green House Monitoring System ' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| 1006 | NGIRI-2024-27577 | Riphah International University | Islamabad | Electrical Engineering | 'Designing of automated belt conveyor for loading/unloading , and counting of MCP Boxes also including weight and barcode scanning of boxes.' |
| 1007 | NGIRI-2024-27597 | Riphah International University | Islamabad | Electrical | 'Real Time Condition Monitoring of Industrial Motors for Protection and Control' |
| 1008 | NGIRI-2024-27750 | Riphah International University | Faisalabad | Software Engineering | 'CropGuard Pro' |
| 1009 | NGIRI-2024-27791 | Riphah International University | Islamabad | Electrical Engineering | 'Electrical Energy Power Saving/Consumption Management For Industries' |
| 1010 | NGIRI-2024-29004 | Riphah International University | Faisalabad | Computer Science | 'Virtual Software Houses' |
| 1011 | NGIRI-2024-24398 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Computer Science & IT | 'Effective eyewear shopping with AI virtual try on ' |
| 1012 | NGIRI-2024-24423 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Computer Science & IT | 'Legal Aid for Lawyers and Non Lawyers' |
| 1013 | NGIRI-2024-24447 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Biomedical Engineering | 'MediSync Alert Hub' |
| 1014 | NGIRI-2024-24706 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Biomedical Engineering | 'An efficient P300 BCI speller for disabled patients' |
| 1015 | NGIRI-2024-24884 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Biomedical Engineering | 'An Intelligent Device for Diabetic Management ' |
| 1016 | NGIRI-2024-27446 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Computer Science | 'Predictive Analysis of Polycystic Ovary Syndrome on Ultrasound Images using Explainable Artificial Intelligence and Machine Learning Operations' |
| 1017 | NGIRI-2024-28235 | Salim Habib University(Barrett Hodgson University) | The Salim Habib | Computer System | 'XAI Based Breast Cancer Detection and Classification' |
| 1018 | NGIRI-2024-24602 | Sarhad University of Science and IT | Main | Electrical Power Engineering | 'Design and Development of Smart Solar Photovoltaic Cleaning Robot' |
| 1019 | NGIRI-2024-24660 | Sarhad University of Science and IT | Main | Computer Science & IT | 'Development of Enhanced Housing Society Management Software with Biometric Verification, Facial Confirmation, and Streamlined Data Entry for WAPDA Town Taru Jabba Peshawar ' |
| 1020 | NGIRI-2024-25640 | Sarhad University of Science and IT | Main | Electrical Engineering | 'IoT based ARC detection and Interruption system in Electrical Power Systems' |
| 1021 | NGIRI-2024-26558 | Sarhad University of Science and IT | Main | Electrical Engineering | ' Smart Electricity Billing System' |
| 1022 | NGIRI-2024-27835 | Sarhad University of Science and IT | Main | Electrical Power Engineering | 'Robot for Cleaning the Solid Waste from Ponds. ' |
| 1023 | NGIRI-2024-29262 | Sarhad University of Science and IT | Main | Computer Science & IT | 'Automation of GSM Signal Jammer based on Prayer Time' |
| 1024 | NGIRI-2024-29666 | Sarhad University of Science and IT | Main | Computer Science & IT | 'EternalTrack: Persistent and Long-Lasting Smartphone Tracking System' |
| 1025 | NGIRI-2024-29988 | Sarhad University of Science and IT | Main | Information Technology | 'Design an IoT-based Home Automation System with Raspberry ' |
| 1026 | NGIRI-2024-23292 | Shah Abdul Latif University, Khairpur | Khairpur | Computer Science | 'INFERNO GUARD ROBOT' |
| 1027 | NGIRI-2024-23718 | Shah Abdul Latif University, Khairpur | Khairpur | Computer Science & IT | 'IOT Based Smart Agricultural Robot ' |
| 1028 | NGIRI-2024-24741 | Shah Abdul Latif University, Khairpur | Khairpur | Computer Science | 'Cane2Scan: Revolutionizing Sugarcane Farming with UAV-Powered White Leaf Disease Detection Using Deep Learning Models' |
| 1029 | NGIRI-2024-25033 | Shah Abdul Latif University, Khairpur | Khairpur | Computer Science | 'Real Time Early Eye Disease Detection using Artificial Intelligence ' |
| 1030 | NGIRI-2024-25119 | Shah Abdul Latif University, Khairpur | Khairpur | Computer Science | 'Glide X Vision : Integrated Control System for Persons withÂ Disabilities' |
| 1031 | NGIRI-2024-28899 | Shaheed Benazir Bhutto University | Upper Dir | Computer Science | 'Cryptic Secure Communication System ' |
| 1032 | NGIRI-2024-24652 | Shaheed Benazir Bhutto University, Shaheed Benazirabad | Nawabshah | Information Technology | 'SBBU Calligrapher robot' |
| 1033 | NGIRI-2024-27796 | Shaheed Benazir Bhutto University, Shaheed Benazirabad | Nawabshah | Information Technology | 'Sindhi TextCraft A Text Editor for Accurate Writing' |
| 1034 | NGIRI-2024-27837 | Shaheed Benazir Bhutto University, Shaheed Benazirabad | Nawabshah | Information Technology | 'AI MCQS TEST ' |
| 1035 | NGIRI-2024-28016 | Shaheed Benazir Bhutto University, Shaheed Benazirabad | Sanghar | Computer Science & IT | E- Voting Management System for Higher Educational Institutions |
| 1036 | NGIRI-2024-29041 | Shaheed Benazir Bhutto University, Shaheed Benazirabad | Nawabshah | Information Technology | 'Smart Time Table Generator App' |
| 1037 | NGIRI-2024-29130 | Shaheed Benazir Bhutto Women University Peshawar | Peshawar | Computer Science | 'voice controlled smart home automation system ' |
| 1038 | NGIRI-2024-24190 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Mechatronics Engineering | 'CURO Smart Helmet' |
| 1039 | NGIRI-2024-24627 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Mechatronics Engineering | 'AceBot ' |
| 1040 | NGIRI-2024-24945 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Computer Science | 'SafeKarachi' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 1041 | NGIRI-2024-25023 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Computer Science | 'Smart Assistant App for Visually Blind and Visually Impaired Individuals' |
| 1042 | NGIRI-2024-25061 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Computer Science | 'SkillSift' |
| 1043 | NGIRI-2024-25526 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Larkana | Computer Science | 'HostelHub' |
| 1044 | NGIRI-2024-25528 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Larkana | Computer Science | 'PreDiabetics Detection System' |
| 1045 | NGIRI-2024-26774 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Larkana | Computer Science | 'FoodEase' |
| 1046 | NGIRI-2024-26783 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Larkana | Computer Science | 'ZabCafe Ordering App' |
| 1047 | NGIRI-2024-27027 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Mechatronics Engineering | 'AQUA INTELLI FLOW' |
| 1048 | NGIRI-2024-27155 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Mechatronics Engineering | 'Bioplastics bag making machine' |
| 1049 | NGIRI-2024-27337 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Science & Technology | 'Preparation of chitosan hydrogel with probiotics and evaluation of its antibacterial properties ' |
| 1050 | NGIRI-2024-27607 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Islamabad | Computer Science | 'The VR Chemistry Lab' |
| 1051 | NGIRI-2024-27741 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Science & Technology | 'Neem Hydrogel' |
| 1052 | NGIRI-2024-27966 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Science & Technology | 'Exploring the Effects of Zeolite/Zinc Oxide Nanocomposites on Maize (Zea mays) Under Drought Stress' |
| 1053 | NGIRI-2024-28116 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Islamabad | Computer Science | 'Iot Based Smart Helmet for Mining Workers' |
| 1054 | NGIRI-2024-29489 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Computer Science | 'SmartFit' |
| 1055 | NGIRI-2024-29559 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Main | Science & Technology | 'ASSESSMENT OF ANTIBACTERIAL PROFILING OF BACTERIA ISOLATED FROM SHOWER HEADS' |
| 1056 | NGIRI-2024-29590 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Hyderabad | Software Engineering | 'SparkleTalk' |
| 1057 | NGIRI-2024-29599 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Hyderabad | Software Engineering | 'KK CNC Woodcrafts' |
| 1058 | NGIRI-2024-29637 | Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) | Hyderabad | Software Engineering | 'Learnify' |
| 1059 | NGIRI-2024-23973 | Sindh Agriculture University | Tando Jam | Information Technology | 'Meat Purification Testing ' |
| 1060 | NGIRI-2024-23982 | Sindh Agriculture University | Tando Jam | Information Technology | 'A.I Based Human Desease Detection System ' |
| 1061 | NGIRI-2024-24095 | Sindh Agriculture University | Tando Jam | Information Technology | 'Verification of Examination Slip using Object Detection' |
| 1062 | NGIRI-2024-24150 | Sindh Agriculture University | Tando Jam | Information & Communication Technology | 'Agrigrowth solution' |
| 1063 | NGIRI-2024-24161 | Sindh Agriculture University | Tando Jam | Information Technology | 'The Third Eye For Blind Man' |
| 1064 | NGIRI-2024-27735 | Sindh Madresatul Islam University | Karachi | Software Engineering | 'Intelligent Livestock Behavior Analytics: A Fusion of IoT and Machine Learning Technologies' |
| 1065 | NGIRI-2024-28980 | Sindh Madresatul Islam University | Karachi | Computer Science | 'Brain Bridging Using AI' |
| 1066 | NGIRI-2024-29010 | Sindh Madresatul Islam University | Karachi | Computer Science | 'FormaScan' |
| 1067 | NGIRI-2024-29574 | Sindh Madresatul Islam University | Karachi | Information Technology | 'Artificial Intelligence-Based Online Exam System for Monitoring and Evaluation' |
| 1068 | NGIRI-2024-29650 | Sindh Madresatul Islam University | Karachi | Computer Science | 'Online parking Slot Management ' |
| 1069 | NGIRI-2024-29727 | Sindh Madresatul Islam University | Karachi | Computer Science | 'Unsupervised learning of charts by image Classification and Kmean' |
| 1070 | NGIRI-2024-23760 | Sir Syed Institute of Technology, Islamabad | CASE | Electrical | 'RF based Drone Detection and Identification Using Deep Learning' |
| 1071 | NGIRI-2024-24505 | Sir Syed Institute of Technology, Islamabad | CASE | Electrical Engineering | 'Smart Solar Flower System' |
| 1072 | NGIRI-2024-24843 | Sir Syed Institute of Technology, Islamabad | CASE | Computer Science | 'Real-time Cross Camera Vehicle Detection and Tracking' |
| 1073 | NGIRI-2024-25025 | Sir Syed Institute of Technology, Islamabad | CASE | Software Engineering | 'Computer Vision Based Agriculture System' |
| 1074 | NGIRI-2024-27182 | Sir Syed Institute of Technology, Islamabad | CASE | Electrical Engineering | 'Low Cost IoT based Home Security System using Computer Vision' |
| 1075 | NGIRI-2024-27739 | Sir Syed Institute of Technology, Islamabad | CASE | Electrical Engineering | 'AERO GUIDE ' |
| 1076 | NGIRI-2024-28347 | Sir Syed Institute of Technology, Islamabad | CASE | Computer Science | 'Optimizing Energy Efficiency in Smart buildings' |
| 1077 | NGIRI-2024-23436 | Sir Syed University of Engineering and Technology (SSUET) | Main | Software Engineering | 'Speechio: Virtual Speech Therapist' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1078 | NGIRI-2024-23515 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Engineering | 'Smart Bicycle System' |
| 1079 | NGIRI-2024-23516 | Sir Syed University of Engineering and Technology (SSUET) | Main | Software Engineering | 'ThoraXInsight' |
| 1080 | NGIRI-2024-24049 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science | 'EnviroBreathe' |
| 1081 | NGIRI-2024-24128 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science | 'WattWise' |
| 1082 | NGIRI-2024-24199 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science | 'Avian Tech Emporium' |
| 1083 | NGIRI-2024-24275 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electrical | 'Solar panel inspection' |
| 1084 | NGIRI-2024-24471 | Sir Syed University of Engineering and Technology (SSUET) | Main | Civil Engineering | 'WATER RESOURCE MANAGEMENT BY USE OF PORTABLE RUBBER DAM FOR AGRICULTURAL DEVELOPMENT AND FLOOD MITIGATION MEASURES IN CONTEXT OF PAKISTAN.' |
| 1085 | NGIRI-2024-24541 | Sir Syed University of Engineering and Technology (SSUET) | Main | Information Technology | 'Faceonyx' |
| 1086 | NGIRI-2024-24582 | Sir Syed University of Engineering and Technology (SSUET) | Main | Software Engineering | 'VisuX AI Based Simulated Reality Tour' |
| 1087 | NGIRI-2024-24674 | Sir Syed University of Engineering and Technology (SSUET) | Main | Bio-Informatics | 'Machine Learning Approach for Precision Medicine in Tuberculosis' |
| 1088 | NGIRI-2024-24685 | Sir Syed University of Engineering and Technology (SSUET) | Main | Bio-Informatics | 'DEEP LEARNING-POWERED SMARTPANCREAS: A WEB-BASED AI COMPANION FOR PANCREATIC CANCER DIAGNOSIS AND SUPPORT' |
| 1089 | NGIRI-2024-24714 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science & IT | 'My Ortho' |
| 1090 | NGIRI-2024-24892 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science | 'Traffic Sense' |
| 1091 | NGIRI-2024-25340 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Engineering | 'shade Craft' |
| 1092 | NGIRI-2024-25759 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Engineering | 'Supervised Image Stacking' |
| 1093 | NGIRI-2024-26864 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electronics Engineeering | HardRock: Precision Engineering for Reliable Hardness Testing' |
| 1094 | NGIRI-2024-26915 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer System | 'WeCare' |
| 1095 | NGIRI-2024-27179 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electronics Engineeering | 'Vision Beyond Boundaries: Development of Cutting-Edge Eyewear Solutions for Paralysis Patients' |
| 1096 | NGIRI-2024-27339 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Engineering | 'DevOps Pipeline Optimization & Automation for Secure & Scalable Kubernetes Deployments' |
| 1097 | NGIRI-2024-27383 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science & IT | 'Object Following Drone' |
| 1098 | NGIRI-2024-27422 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science & IT | 'Elite Bid Spot' |
| 1099 | NGIRI-2024-27469 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electrical Engineering | 'Vehicle Data Logging ' |
| 1100 | NGIRI-2024-27802 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electronics Engineeering | 'Agricultural quadcopter scan aphid alert ' |
| 1101 | NGIRI-2024-28485 | Sir Syed University of Engineering and Technology (SSUET) | Main | Telecom Engineering | 'Smart agriculture system ' |
| 1102 | NGIRI-2024-28716 | Sir Syed University of Engineering and Technology (SSUET) | Main | Bio-Informatics | 'In-silico studies of antiviral drug design for the target protein of dengue virus' |
| 1103 | NGIRI-2024-29140 | Sir Syed University of Engineering and Technology (SSUET) | Main | Computer Science & IT | 'Mouth Diseases Detection App' |
| 1104 | NGIRI-2024-29656 | Sir Syed University of Engineering and Technology (SSUET) | Main | Electronics Engineeering | 'Cooperative Ground Robots (COBOTS) for Agriculture Harvesting' |
| 1105 | NGIRI-2024-23256 | Sukkur IBA University | Main | Computer Science | 'Blockchain Based Online Ticketing System Book IT' |
| 1106 | NGIRI-2024-23264 | Sukkur IBA University | Main | Computer Science | 'Multifunctional Personal Assistant Robot' |
| 1107 | NGIRI-2024-23600 | Sukkur IBA University | Main | Electrical/Electronics Engineering | 'Automated Vision System for Fabric Defect Inspection' |
| 1108 | NGIRI-2024-23702 | Sukkur IBA University | Main | Computer Science | 'FLIS (Futuristic Laptop with Integrated Cloud Services)' |
| 1109 | NGIRI-2024-23874 | Sukkur IBA University | Main | Electrical Engineering | 'Development of manta ray inspired soft fish robot with embodied sensing for efficient underwater environmental monitoring' |
| 1110 | NGIRI-2024-24222 | Sukkur IBA University | Main | Computer Science | 'Wrist Abnormalities Detection Using LLM' |
| 1111 | NGIRI-2024-25890 | Sukkur IBA University | Main | Electrical/Electronics Engineering | 'Design of Bio inspired Fly Trapping soft robot using Muscle Wires (Shape Memory Alloy)' |
| 1112 | NGIRI-2024-26547 | Sukkur IBA University | Main | Electrical Engineering | 'Microwaving Weeds to Enhance Agriculture' |
| 1113 | NGIRI-2024-27328 | Sukkur IBA University | Main | Electrical Engineering | 'Design and Fabrication of AI Assisted Soft Hand with Flexible Sensors' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 1114 | NGIRI-2024-27549 | Sukkur IBA University | Main | Electrical Engineering | 'Power Quality Analysis through Phasor Measurement Unit' |
| 1115 | NGIRI-2024-27823 | Sukkur IBA University | Main | Electrical/Electronics Engineering | 'Voice Guardian: Revolutionizing Mine Safety with AI- Voice Controlled Robot' |
| 1116 | NGIRI-2024-23295 | The Islamia University of Bahawalpur | Baghdad | Telecom Engineering | 'Smart Muff for Visually Impaired People' |
| 1117 | NGIRI-2024-23459 | The Islamia University of Bahawalpur | Baghdad | Electrical Engineering | 'Design and Implementation of Regenerative Braking System and Advanced Battery Management System (BMS) for an Electric Vehicle (EV)' |
| 1118 | NGIRI-2024-23522 | The Islamia University of Bahawalpur | Baghdad | Electrical Engineering | 'iot based Smart metering system ' |
| 1119 | NGIRI-2024-23530 | The Islamia University of Bahawalpur | Baghdad | Telecom Engineering | 'Blockchain-based secure academic credential verification system ' |
| 1120 | NGIRI-2024-24800 | The Islamia University of Bahawalpur | Baghdad | Computer System Engineering | 'Optimizing Intrusion Detection Systems (IDs) Through Significant Feature Selection By ML Techniques' |
| 1121 | NGIRI-2024-24915 | The Islamia University of Bahawalpur | Baghdad | Computer Science | 'Lidar based Robot Navigation' |
| 1122 | NGIRI-2024-29341 | The Islamia University of Bahawalpur | Baghdad | Computer Engineering | 'Enhancing Reconnaissance Missions through Multiple Unmanned Systems in ROS' |
| 1123 | NGIRI-2024-29624 | The Islamia University of Bahawalpur | Baghdad | Computer Science & IT | 'HeartGuard' |
| 1124 | NGIRI-2024-30059 | The Islamia University of Bahawalpur | Baghdad | Computer Engineering | 'Life Expectancy Prediction Using ML Algorithms' |
| 1125 | NGIRI-2024-23370 | The Superior College | University | Electrical Engineering | 'SMART GARBAGE SEGREGATION AND MANAGEMENT SYSTEM USING THE INTERNET OF THINGS' |
| 1126 | NGIRI-2024-23479 | The Superior College | University | Electrical Engineering | 'Design and implementation of Low cost plant growth chamber with IoT monitoring ' |
| 1127 | NGIRI-2024-23508 | The Superior College | University | Electrical/Electronics Engineering | 'Stress Level Detection In Humans By using Machine Learning' |
| 1128 | NGIRI-2024-24663 | The Superior College | University | Avionics/Aeronautical Engineering | ' \"Wireless Gesture-Controlled Robotic Arm: Revolutionizing Human-Machine Interaction\"' |
| 1129 | NGIRI-2024-24880 | The Superior College | University | Avionics Engineering | 'DESIGN AND FABRICATION OF DRONE HUNTER ' |
| 1130 | NGIRI-2024-24917 | The Superior College | University | Computer & Information System Engineering | 'Auto Detection for Lesion using Latest AI Techniques On Digital Mammography' |
| 1131 | NGIRI-2024-24924 | The Superior College | University | Computer & Information System Engineering | ' AI BASED CUSTOMIZED DESIGN SYSTEM FOR CLOTHING' |
| 1132 | NGIRI-2024-24928 | The Superior College | University | Computer & Information System Engineering | 'AI Degree Advisor' |
| 1133 | NGIRI-2024-26893 | The Superior College | Gold Campus | Computer Science | 'Dynamic Sun Tracking Solution' |
| 1134 | NGIRI-2024-27307 | The Superior College | Gold Campus | Computer Science | 'MindWheels: Designing an EEG-Controlled Wheelchair for Enhanced Mobility' |
| 1135 | NGIRI-2024-27642 | The Superior College | Gold Campus | Computer Science | 'ETMS Effortless Traffic Management System ' |
| 1136 | NGIRI-2024-27776 | The Superior College | Gold Campus | Computer Science & IT | 'Multilingual Call Translator' |
| 1137 | NGIRI-2024-27828 | The Superior College | University | Electrical Engineering | 'Animal Monitoring System AMS via AI based top mounted Cameras to study Pharmaceutical Research in Animal Models' |
| 1138 | NGIRI-2024-27838 | The Superior College | University | Electrical Engineering | 'Comparative study and Simulative Analysis of Electric Vehicle Fleet Integration in AC Microgrid' |
| 1139 | NGIRI-2024-28620 | The Superior College | Gold Campus | Computer Science & IT | 'Biometric Unlock Cars System' |
| 1140 | NGIRI-2024-28731 | The Superior College | Gold Campus | Computer Science & IT | 'Swift Buy Hub' |
| 1141 | NGIRI-2024-29302 | The Superior College | Gold Campus | Computer Science & IT | 'SmartPark: Automated Number Plate Recognition and Secure Payment System with UserÂ Authentication' |
| 1142 | NGIRI-2024-29697 | The Superior College | Gold Campus | Computer Science | 'AetherSynth: AI-Driven Atmospheric Data Collection' |
| 1143 | NGIRI-2024-23681 | The University of Faisalabad | Engineering Wing | Software Engineering | 'FreightEase' |
| 1144 | NGIRI-2024-23719 | The University of Faisalabad | Engineering Wing | Computer Science | 'EMERGIFY' |
| 1145 | NGIRI-2024-23909 | The University of Faisalabad | Engineering Wing | Software Engineering | 'Online tutor Web Application' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1146 | NGIRI-2024-25319 | The University of Faisalabad | Engineering Wing | Electrical Engineering | 'Advanced Navigator Robotic Vehicle Design for Deep Learning based Monitoring Assessment of Mines, Tunnel and Civil Infrastructure with Atmospheric Data Collection' |
| 1147 | NGIRI-2024-25514 | The University of Faisalabad | Engineering Wing | Software Engineering | 'Remote Mentor' |
| 1148 | NGIRI-2024-25636 | The University of Faisalabad | Engineering Wing | Electrical/Electronics Engineering | 'Design and Development of Hybrid Wireless Charging System for Electric Vehicles' |
| 1149 | NGIRI-2024-25752 | The University of Faisalabad | Engineering Wing | Electrical Engineering | 'Efficient Energy Management of Hybrid Vehicle' |
| 1150 | NGIRI-2024-26763 | The University of Faisalabad | Engineering Wing | Computer Science | 'Blockchain based Land Registration System' |
| 1151 | NGIRI-2024-28578 | The University of Faisalabad | Engineering Wing | Software Engineering | 'Lifelence booking system' |
| 1152 | NGIRI-2024-25994 | The University of Haripur | Main | Software Engineering | 'SignSecure: Machine Learning Based Signature Verification System' |
| 1153 | NGIRI-2024-26474 | The University of Haripur | Main | Information Technology | 'Augmented Reality In Chemical Training And Education' |
| 1154 | NGIRI-2024-26716 | The University of Haripur | Main | Computer Science & IT | 'Counting Crowds with AI: Revolutionizing Surveillance' |
| 1155 | NGIRI-2024-28362 | The University of Haripur | Main | Information Technology | 'PestPatrol: Robotic Solution for Crop Protection' |
| 1156 | NGIRI-2024-28501 | The University of Haripur | Main | Information Technology | 'VIRTUAL 3D REPRESENTATION OF ARCHITECTURAL DESIGNS USING AGUMENTED REALITY' |
| 1157 | NGIRI-2024-28836 | The University of Haripur | Main | Telecommunication & Networking | 'University attendance system ' |
| 1158 | NGIRI-2024-28959 | The University of Haripur | Main | Software Engineering | 'ARHouse: Indoor Renovation With Augmented Reality' |
| 1159 | NGIRI-2024-29038 | The University of Haripur | Main | Computer Science | 'Pathwaywhispers - AI Based Career Counselling Application' |
| 1160 | NGIRI-2024-29233 | The University of Haripur | Main | Software Engineering | 'An AI System of Road Damage Detection ' |
| 1161 | NGIRI-2024-29317 | The University of Haripur | Main | Computer Science | NeuroDetect: AI-Powered Brain Tumor Detection System (BTDS) |
| 1162 | NGIRI-2024-29357 | The University of Haripur | Main | Computer Science | EverMark: Facial Recognition Attendance Revolution System |
| 1163 | NGIRI-2024-29407 | The University of Haripur | Main | Information & Communication Technology | 'Deepfake Image Detection Through Deep Learning' |
| 1164 | NGIRI-2024-29429 | The University of Haripur | Main | Computer Science | 'AR based E-COMMERCE store' |
| 1165 | NGIRI-2024-29996 | The University of Haripur | Main | Computer Science & IT | SecureSig: AI Signature Verification Solution |
| 1166 | NGIRI-2024-30130 | The University of Haripur | Main | Telecommunication & Networking | 'Enhancing Campus Navigation with Augmented Reality' |
| 1167 | NGIRI-2024-30135 | The University of Haripur | Main | Information Technology | Cross-Modality Mastery: Revolutionizing Factory Navigation through Cross-Modality Distillation |
| 1168 | NGIRI-2024-30181 | The University of Haripur | Main | Computer Science & IT | 'CLOUD-BASED COLLABORATIVE VISUALIZATION AND MANIPULATION OF ARCHITECTURAL ARTIFACTS USING AUGMENTED REALITY' |
| 1169 | NGIRI-2024-30186 | The University of Haripur | Main | Computer Science & IT | 'Blockchain based IoT enabled Attendance Management System' |
| 1170 | NGIRI-2024-30233 | The University of Haripur | Main | Software Engineering | AR DecoSmart: Revolutionizing Interior Design with Augmented Reality |
| 1171 | NGIRI-2024-30260 | The University of Haripur | Main | Telecom Engineering | AIQ Guard: Intelligent Indoor Air Quality Monitoring System |
| 1172 | NGIRI-2024-23371 | The University of Lahore | Main | Software Engineering | 'iLearn' |
| 1173 | NGIRI-2024-24821 | The University of Lahore | Main | Electronics | 'Accident prevention detection and reporting system using Arduino ' |
| 1174 | NGIRI-2024-25959 | The University of Lahore | Main | Computer System | 'Eco Friendly Pencils ' |
| 1175 | NGIRI-2024-26261 | The University of Lahore | Main | Software Engineering | 'interior three sixty' |
| 1176 | NGIRI-2024-26762 | The University of Lahore | Main | Software Engineering | 'The Legal Assistant' |
| 1177 | NGIRI-2024-26947 | The University of Lahore | Main | Computer Science & IT | 'Drowsiness Prevention System' |
| 1178 | NGIRI-2024-26950 | The University of Lahore | Main | Mechanical Engineering | 'Design Analysis and Fabrication of Savonius Wind Turbine' |
| 1179 | NGIRI-2024-26980 | The University of Lahore | Main | Computer Science | 'Wrist View Augmented Reality Based E-commerce app with AI based user Recommendation' |
| 1180 | NGIRI-2024-27214 | The University of Lahore | Main | Software Engineering | 'MEDIQ: AI-POWERED MEDICAL DIAGNOSIS' |

| National Grassroot ICT Research Initiative (NGIRI) 2023-24 | | | | | |
|---|---|---|---|---|---|
| **Shortlisted FYPs** | | | | | |
| S.No | FYP Code | University | Campus | Department | FYP Title |
| 1181 | NGIRI-2024-27982 | The University of Lahore | Main | Electrical Engineering | 'Regenerative Braking and Battery Management System for Solar Hybrid Electric Vehicles' |
| 1182 | NGIRI-2024-28004 | The University of Lahore | Main | Electrical Engineering | 'Design and Implementation of Anti Theft Kit for Distribution Transformer using IOT' |
| 1183 | NGIRI-2024-28553 | The University of Lahore | Main | Mechanical Engineering | 'Analysis of Biodiesel through Algae source under the climatic conditions of Pakistan' |
| 1184 | NGIRI-2024-28758 | The University of Lahore | Main | Electrical Engineering | 'Rice Planting Robot' |
| 1185 | NGIRI-2024-24545 | The University of Larkano | Main | Electrical Engineering | 'Design Synchronous Reluctance Motor For Electric Vehicle ' |
| 1186 | NGIRI-2024-24662 | The University of Larkano | Main | Electrical Engineering | 'Foot step power generation system' |
| 1187 | NGIRI-2024-24720 | The University of Larkano | Main | Electrical Engineering | 'Design and Development of IOT based Smart Solar Grass Cutter ' |
| 1188 | NGIRI-2024-25391 | The University of Larkano | Main | Electronics Engineering | 'Design and development of the multi-link articulated robot for pipeline inspection ' |
| 1189 | NGIRI-2024-26578 | The University of Larkano | Main | Electronics Engineering | 'Design and development of low cost robot manipulator kit for robotics laboratory' |
| 1190 | NGIRI-2024-27401 | The University of Larkano | Main | Electronics Engineering | 'TransitTrace: Integrated University Bus Tracking System' |
| 1191 | NGIRI-2024-28234 | The University of Larkano | Main | Electronics | 'Stuctural Health Analysis of Sukkur Baraage Using Drone Technology' |
| 1192 | NGIRI-2024-28438 | The University of Larkano | Main | Electronics Engineering | 'Alzheimer\'s Disease Detection using Convolutional Neural Network ' |
| 1193 | NGIRI-2024-29756 | The University of Larkano | Main | Electrical Engineering | 'Design of optimal solar panel low power consumed SR motor' |
| 1194 | NGIRI-2024-24052 | University of Agriculture | Main | Computer Science | 'Smart Grain Storage System ' |
| 1195 | NGIRI-2024-24110 | University of Agriculture | Main | Computer System | 'AI AND BLOCKCHAIN-BASED CROP INSURANCE SYSTEM' |
| 1196 | NGIRI-2024-24160 | University of Agriculture | Main | Computer Science | 'AI Based Agricure pro App' |
| 1197 | NGIRI-2024-24350 | University of Agriculture | Main | Computer Science | 'Orange Detection and Counting System' |
| 1198 | NGIRI-2024-24385 | University of Agriculture | Main | Energy System Engineering | 'Renewable Energy Based Wireless EV Charging Station ' |
| 1199 | NGIRI-2024-24638 | University of Agriculture | Main | Mechanical Engineering | 'WeedBot' |
| 1200 | NGIRI-2024-27205 | University of Agriculture | Burewala | Computer Science | 'ROBOTIC ARM with Gesture Control' |
| 1201 | NGIRI-2024-27694 | University of Agriculture | Main | Engineering and Sciences | 'Development of Air Quality Index Monitoring System ' |
| 1202 | NGIRI-2024-27715 | University of Agriculture | Burewala | Computer Science & IT | 'm Assistive Digital Glasses for Individuals with Partial Blindness' |
| 1203 | NGIRI-2024-28052 | University of Agriculture | Main | Energy System Engineering | 'Design, development and performance evaluation of single axis tracking of Scheffler concentrator ' |
| 1204 | NGIRI-2024-28196 | University of Agriculture | Burewala | Computer Science | 'Water health detector ' |
| 1205 | NGIRI-2024-28215 | University of Agriculture | Burewala | Information Technology | 'Healthcare Humaniod Robot' |
| 1206 | NGIRI-2024-28860 | University of Agriculture | Main | Engineering and Sciences | 'HEIS AUTOMATION SYSTEM' |
| 1207 | NGIRI-2024-29016 | University of Agriculture | Main | Energy System Engineering | 'Power Generation in Electric Bicycle Using Electromagnetic Suspension System' |
| 1208 | NGIRI-2024-29370 | University of Agriculture | Main | Engineering and Sciences | 'Energy Efficient Fluff Collector' |
| 1209 | NGIRI-2024-29711 | University of Agriculture | Main | Computer Science | 'Codebin' |
| 1210 | NGIRI-2024-23798 | University of Azad Jammu & Kashmir | Main | Electrical Engineering | 'IoT based Smart Gas Leakage Detection and Oxygen Level Monitoring System ' |
| 1211 | NGIRI-2024-24007 | University of Azad Jammu & Kashmir | Main | Software Engineering | 'Pak Hunar' |
| 1212 | NGIRI-2024-24042 | University of Azad Jammu & Kashmir | Main | Electrical Engineering | 'Battery Management System using Machine Learning' |
| 1213 | NGIRI-2024-25094 | University of Azad Jammu & Kashmir | Main | Software Engineering | 'Sign Language Recognition and Conversion' |
| 1214 | NGIRI-2024-25174 | University of Azad Jammu & Kashmir | Main | Software Engineering | 'Gaari-share(Android Application' |
| 1215 | NGIRI-2024-27407 | University of Azad Jammu & Kashmir | Main | Electrical Engineering | 'EV Recharging Through Back EMF ' |
| 1216 | NGIRI-2024-28069 | University of Azad Jammu & Kashmir | Main | Electrical Engineering | 'Design of Air Water Generator' |
| 1217 | NGIRI-2024-25172 | University of Buner | Bunair | Computer Science | 'Poshto Sign Language localization for disable human communication' |
| 1218 | NGIRI-2024-25260 | University of Buner | Bunair | Computer Science | 'Brain Tumor Clasification and Recognition using Deep Learning' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 1219 | NGIRI-2024-26170 | University of Buner | Bunair | Computer Science | 'English to Pashto translation using generative ArtificialÂ Intelligence' |
| 1220 | NGIRI-2024-26200 | University of Buner | Bunair | Computer Science | ' Blood Heart Vessel Classification and Segmentation Using Ensemble-Based Deep Learning Methods for Heart Diseases Prediction' |
| 1221 | NGIRI-2024-24078 | University of Central Punjab | Main | Electrical Engineering | 'Advancing Environmental Monitoring and Remote Sensing through CubeSat a Student Satellite' |
| 1222 | NGIRI-2024-24590 | University of Central Punjab | Main | Mechanical Engineering | 'Design and Fabrication of an industrial articulated pick and place mobile robot ' |
| 1223 | NGIRI-2024-24607 | University of Central Punjab | Main | Mechanical Engineering | 'SINGLE-CELL SOLID OXIDE CO2 ELECTROLYZER FOR THE CONVERSION OF CO2 TO FUEL' |
| 1224 | NGIRI-2024-26304 | University of Central Punjab | Main | Mechanical Engineering | 'Design and Fabrication of Five axis CNC Milling machine ' |
| 1225 | NGIRI-2024-26571 | University of Central Punjab | Main | Computer Science & IT | 'CIPHERFALL THE DIGITAL REVOLUTION BEGINS' |
| 1226 | NGIRI-2024-26577 | University of Central Punjab | Main | Computer Science | 'Intellidish' |
| 1227 | NGIRI-2024-26813 | University of Central Punjab | Main | Computer Science | 'AI-Powered Communication Assistant for the Hearing and Speech Impaired' |
| 1228 | NGIRI-2024-27452 | University of Central Punjab | Main | Mechanical Engineering | 'Designing A motor driven vertical stair chair lift' |
| 1229 | NGIRI-2024-27557 | University of Central Punjab | Main | Computer Science & IT | 'Mango Disease Detector' |
| 1230 | NGIRI-2024-27708 | University of Central Punjab | Main | Electrical Engineering | 'Design and Development of CANSAT A Student Satellite' |
| 1231 | NGIRI-2024-29778 | University of Central Punjab | Main | Computer Science & IT | 'The AuraGuid: Visual Assistive AI System for the Blind' |
| 1232 | NGIRI-2024-29779 | University of Central Punjab | Main | Computer Science & IT | 'Istifada' |
| 1233 | NGIRI-2024-29808 | University of Central Punjab | Main | Computer Science | 'AgroMarketHub' |
| 1234 | NGIRI-2024-29882 | University of Central Punjab | Main | Computer Science | 'Autism Therapeutic Chabot: Empowering Hearts and Minds ' |
| 1235 | NGIRI-2024-23564 | University of Education | Township | Information Technology | 'INTEGRATED ENERGY SMART SYSTEM' |
| 1236 | NGIRI-2024-24600 | University of Education | Township | Science & Technology | 'Smart Tourist Tracking System ' |
| 1237 | NGIRI-2024-25740 | University of Education | Joharabad | Computer Science & IT | 'Advance Image Encryption using Quantum Logistic map and Watermarking ' |
| 1238 | NGIRI-2024-25745 | University of Education | Joharabad | Computer Science & IT | 'HTML and CSS Code Generation From Image ' |
| 1239 | NGIRI-2024-26092 | University of Education | Joharabad | Computer Science & IT | 'Agile Project Management Tool for Streamlined Collaboration' |
| 1240 | NGIRI-2024-26507 | University of Education | Multan | Information Technology | 'Home Space Augmented Reality Furniture Placement App' |
| 1241 | NGIRI-2024-26663 | University of Education | Multan | Computer Science & IT | 'Human skin disease identification and classification based on image analyses model' |
| 1242 | NGIRI-2024-28167 | University of Education | Joharabad | Computer Science & IT | 'Autonomous Atmospheric water Generator ' |
| 1243 | NGIRI-2024-28287 | University of Education | Multan | Computer Science & IT | 'Virtual Try On ' |
| 1244 | NGIRI-2024-29510 | University of Education | Vehari | Information Technology | 'Bitlaw Associates ' |
| 1245 | NGIRI-2024-29874 | University of Education | D.G. Khan | Information Technology | 'Medical Emergency Finder ' |
| 1246 | NGIRI-2024-23302 | University of Engineering & Technology, Lahore | Narowal | Computer Science | 'An Emerging Technique of Investment for Harnessing the Power of Decentralized Autonomous Organization' |
| 1247 | NGIRI-2024-23318 | University of Engineering & Technology, Lahore | Narowal | Computer Science | 'Electronic voting system using blockchain and image processing ' |
| 1248 | NGIRI-2024-23376 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Mechanical Engineering | 'Design and Manufacturing of Robotic Cleaner and Defect Detector using machine learning for Coal Fired Boilers' |
| 1249 | NGIRI-2024-23404 | University of Engineering & Technology, Lahore | Faisalabad | Mechatronics Engineering | 'Automatic Glaze Spraying Robot For Sanitary Ware Using Plc' |
| 1250 | NGIRI-2024-23827 | University of Engineering & Technology, Lahore | RCET Gujranwala | Electrical Engineering | 'Breaking Barriers: Enhancing Accessibility with Smart Personal Assistance for the Visually Impaired Community' |
| 1251 | NGIRI-2024-23844 | University of Engineering & Technology, Lahore | Narowal | Mechanical Engineering | 'MODELING AND OPTIMIZATION OF SOLAR POWERED PYROLYSIS REACTOR FOR PLASTIC WASTE CONVERSION INTO USEFUL PRODUCTS' |
| 1252 | NGIRI-2024-23861 | University of Engineering & Technology, Lahore | RCET Gujranwala | Electrical Engineering | 'Lane Departure Warning System for Buses & Truks' |
| 1253 | NGIRI-2024-23922 | University of Engineering & Technology, Lahore | Narowal | Mechanical Engineering | 'Fabrication and Analysis of Smoke Visualized Subsonic Wind Tunnel : An Experimental Setup' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1254 | NGIRI-2024-24000 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Mechanical Engineering | Design And Fabrication of a Heat Exchanger, Oil Bath Cleaning Unit and Exhaust Gas Recirculation (HE-OBCU-EGR) Retrofit and to Study its Impact on Performance and Emissions of a Diesel Engine Fueled by Diesel Mixtures with Carbon Nanotubes |
| 1255 | NGIRI-2024-24197 | University of Engineering & Technology, Lahore | Faisalabad | Electrical/Electronics Engineering | 'Smart Agriculture Monitoring and Irrigation With Mobile App/IoT' |
| 1256 | NGIRI-2024-24286 | University of Engineering & Technology, Lahore | Narowal | Mechanical Engineering | 'Design, Fabrication and AI-Driven analysis of a speed bump based Energy Harvesting System (EHS) for Sustainable Electricity Generation' |
| 1257 | NGIRI-2024-24310 | University of Engineering & Technology, Lahore | Narowal | Mechanical Engineering | 'Green Ammonia Production Prototype for Sustainable energy future in Pakistan' |
| 1258 | NGIRI-2024-24389 | University of Engineering & Technology, Lahore | Faisalabad | Electrical Engineering | 'Smart Prescription Medicine Vending Machine' |
| 1259 | NGIRI-2024-24390 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical Engineering | 'SMART MONITORNING AND PROTECTION OF DISTRIBUTION TRANSFORMER' |
| 1260 | NGIRI-2024-24393 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical/Electronics Engineering | 'Design and implementation of redundant, uninterrupted power supply with fail-safe mechanism for biomedical applications including incubator' |
| 1261 | NGIRI-2024-24408 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical Engineering | 'An AI and ML-Driven ReviveCycle Machine with a Reward-Based Mechanism for Sustainable WasteÂ Management' |
| 1262 | NGIRI-2024-24548 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical Engineering | 'Plant Disease Detection using Unmanned Ariel Vehicle UAV' |
| 1263 | NGIRI-2024-25060 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical Engineering | 'Pre Paid Energy Meter with Hybridized Renewable Energy Source System' |
| 1264 | NGIRI-2024-25071 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Mechanical Engineering | 'Design, Analysis, and Fabrication of Solar Seawater Desalination Machine with RO and UV Purifier.' |
| 1265 | NGIRI-2024-25136 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Mechanical Engineering | 'Design and Fabrication of windmill for water pumping ' |
| 1266 | NGIRI-2024-25326 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Biomedical Engineering | 'Design and Development of Wearable Strain Sensors for Joint Movement Monitoring' |
| 1267 | NGIRI-2024-25387 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Civil Engineering | 'Improving Concrete Durability Under Impact Loading Through Steel Fiber From Recycled Rubber Tyre' |
| 1268 | NGIRI-2024-25451 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Civil Engineering | 'Estimation of Water Deficit using Arc GIS and Remote Sensing for Walhar Canal , District Rahim yar khan, Tehsil Sadiqabad ' |
| 1269 | NGIRI-2024-25467 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Mechanical Engineering | 'Design and fabrication of a machine for automatic waste sorting and preparing compost from organic waste' |
| 1270 | NGIRI-2024-25544 | University of Engineering & Technology, Lahore | Faisalabad | Mechatronics Engineering | '3D Markerless Motion Capture System for Diagnosis of Parkinsons Disease\' OR \'Design of kinematic assessments tools for diagnosis of neurological diseases' |
| 1271 | NGIRI-2024-25865 | University of Engineering & Technology, Lahore | Lahore | Computer Engineering | 'Smart Hand Talk' |
| 1272 | NGIRI-2024-25881 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Mechanical Engineering | 'IoT-Based Automation of Agri-drone for Pesticide Spraying' |
| 1273 | NGIRI-2024-25911 | University of Engineering & Technology, Lahore | Lahore | Computer Engineering | 'Guided Indoor Navigation for the Visually Impaired People' |
| 1274 | NGIRI-2024-26265 | University of Engineering & Technology, Lahore | Faisalabad | Electrical Engineering | 'Digital Board pro: A Smart Device for Converting Display Screens into Interactive Whiteboards ' |
| 1275 | NGIRI-2024-26266 | University of Engineering & Technology, Lahore | Faisalabad | Mechatronics Engineering | 'Developement and Control of Ankle Foot Prosthesis' |
| 1276 | NGIRI-2024-26391 | University of Engineering & Technology, Lahore | Narowal | Electrical Engineering | 'Implementation of Autonomous Railway Line Fault Detection Robot Using Deep learning' |
| 1277 | NGIRI-2024-26584 | University of Engineering & Technology, Lahore | Lahore | Computer Science | 'Visual Aberrant Behavior Analysis for Senior Assistive Living' |
| 1278 | NGIRI-2024-26587 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Electrical Engineering | 'Automated Precision Object Manipulation System (APOMS): Integrating Computer Vision and 3D Printed Robotic Arm Technology' |
| 1279 | NGIRI-2024-26741 | University of Engineering & Technology, Lahore | Sharif College of Engineering and Technology | Electrical Engineering | 'IOT Enabled Induction motor control using PLC HMI SCADA Sensor Fusion and Predictive Maintenance through AI' |
| 1280 | NGIRI-2024-27057 | University of Engineering & Technology, Lahore | Faisalabad | Mechatronics Engineering | 'Design and Development of Wearable Data Acquisition System for Biomechanical Analysis' |
| 1281 | NGIRI-2024-27180 | University of Engineering & Technology, Lahore | Faisalabad | Electrical Engineering | 'Solar Powered Seed Sprayer Machine for sustainable and efficient agriculture' |
| 1282 | NGIRI-2024-27219 | University of Engineering & Technology, Lahore | Faisalabad | Electrical Power Engineering | 'Design and Implementation of Electric Bicycle' |
| 1283 | NGIRI-2024-27628 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Computer Science | 'Gestational sac segmentation using CNNs for Early Pregnancy Detection and Diagnosis' |

# National Grassroot ICT Research Initiative (NGIRI) 2023-24

## Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| 1284 | NGIRI-2024-28281 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Computer Science | 'Sign Sense Gesture Communication System' |
| 1285 | NGIRI-2024-28464 | University of Engineering & Technology, Lahore | Kala Shah Kaku | Computer Science | 'Sign Craft ' |
| 1286 | NGIRI-2024-28906 | University of Engineering & Technology, Lahore | Lahore | Mechatronics Engineering | 'AR-Empowered CPR Training' |
| 1287 | NGIRI-2024-29304 | University of Engineering & Technology, Lahore | Lahore | Computer Science | 'Kalopsia' |
| 1288 | NGIRI-2024-29347 | University of Engineering & Technology, Lahore | Lahore | Computer Engineering | 'ML Enhanced Digital twin of Punjab\'s JC Region' |
| 1289 | NGIRI-2024-29377 | University of Engineering & Technology, Lahore | Lahore | Computer Engineering | ' Smart Surgical Hand: AI & EMG for Fatigue Analysis' |
| 1290 | NGIRI-2024-29462 | University of Engineering & Technology, Lahore | Lahore | Computer Science | 'AI Hadi NER for the urdu translation of Quran' |
| 1291 | NGIRI-2024-29630 | University of Engineering & Technology, Lahore | Narowal | Biomedical Engineering | 'Sign Language to Speech Translation using Flexible sensor Arrays' |
| 1292 | NGIRI-2024-29923 | University of Engineering & Technology, Lahore | Lahore | Mechatronics Engineering | 'Electric Formula Car with Regenerative Braking System' |
| 1293 | NGIRI-2024-29944 | University of Engineering & Technology, Lahore | Swedish College of Engineering and Technology | Civil Engineering | Development and evaluation of nano-carbon-cement composite sensors for health monitoring of civil structures |
| 1294 | NGIRI-2024-23498 | University of Engineering & Technology, Peshawar | Jalozai | Mechanical Engineering | 'Design And Fabrication Of Drainage Cleaning Machine' |
| 1295 | NGIRI-2024-23655 | University of Engineering & Technology, Peshawar | Peshawar | Mechatronics Engineering | 'Pneumatic Engine Prototype' |
| 1296 | NGIRI-2024-23694 | University of Engineering & Technology, Peshawar | Peshawar | Mechatronics Engineering | 'Design and Fabrication of Melt Flow Index (MFI) Machine ' |
| 1297 | NGIRI-2024-23871 | University of Engineering & Technology, Peshawar | Peshawar | Mechatronics Engineering | 'Design and Fabrication of Three D Bio Printer of Tissues Engineering' |
| 1298 | NGIRI-2024-23889 | University of Engineering & Technology, Peshawar | Peshawar | Mechatronics Engineering | 'Development of Autonomous Medicine Delivery Robot for Hospital Applications' |
| 1299 | NGIRI-2024-23937 | University of Engineering & Technology, Peshawar | Jalozai | Electrical Engineering | 'Design and Fabrication of a Portable Solar Cooler Using Thermoelectric Effect' |
| 1300 | NGIRI-2024-24240 | University of Engineering & Technology, Peshawar | Jalozai | Civil Engineering | 'Traffic control system using image processing' |
| 1301 | NGIRI-2024-24593 | University of Engineering & Technology, Peshawar | Jalozai | Mechanical Engineering | 'Feasibility Assessment Of sustainable production facility for Himalayan Salt in pakistan' |
| 1302 | NGIRI-2024-24646 | University of Engineering & Technology, Peshawar | Abbottabad | Electronics Engineeering | 'Induction cooking using solar energy ' |
| 1303 | NGIRI-2024-25160 | University of Engineering & Technology, Peshawar | Bannu | Civil Engineering | 'To Evaluate the Mechanical Properties of Rubberized Concrete under ElevatedÂ Temperature' |
| 1304 | NGIRI-2024-25506 | University of Engineering & Technology, Peshawar | Jalozai | Electrical Engineering | ' Precision Agriculture Enhancement through Machine Learning and IoT Integration' |
| 1305 | NGIRI-2024-25684 | University of Engineering & Technology, Peshawar | Jalozai | Electrical Engineering | 'Smart automation and monitoring of water tubewell system for Water and sanitation services Company through IoT' |
| 1306 | NGIRI-2024-25697 | University of Engineering & Technology, Peshawar | Jalozai | Civil Engineering | 'Numerical modeling of Mechanically Stabilized Earth Walls using GFRP bars embeded in sand' |
| 1307 | NGIRI-2024-26172 | University of Engineering & Technology, Peshawar | Jalozai | Mechanical Engineering | 'Design and Fabrication of mold for testing the mechanical properties of Recycled polymers for sustainability in industry' |
| 1308 | NGIRI-2024-26348 | University of Engineering & Technology, Peshawar | Peshawar | Electrical Power Engineering | 'Regenerative Suspension System for an electric vehicles for an effective harvesting of the energy' |
| 1309 | NGIRI-2024-26442 | University of Engineering & Technology, Peshawar | Peshawar | Electrical Power Engineering | 'Real-Time Monitoring and Protection Of Distribution Transformer' |
| 1310 | NGIRI-2024-26653 | University of Engineering & Technology, Peshawar | Jalozai | Civil Engineering | 'Validation of experimental and numerical results using large direct shear test' |
| 1311 | NGIRI-2024-26671 | University of Engineering & Technology, Peshawar | Peshawar | Mechanical Engineering | 'IOT-Based Predictive Maintenance and Monitoring System for Industrial Motors ' |
| 1312 | NGIRI-2024-26952 | University of Engineering & Technology, Peshawar | Jalozai | Electrical Engineering | 'IoT Based Smart Green House System' |
| 1313 | NGIRI-2024-27036 | University of Engineering & Technology, Peshawar | Peshawar | Mechanical Engineering | 'Design and Fabrication of Folding Wing VTOL UAV For Payload Transportation' |
| 1314 | NGIRI-2024-27103 | University of Engineering & Technology, Peshawar | Peshawar | Industrial Electronics | 'Mold Design For Footrest Of WheelChair' |
| 1315 | NGIRI-2024-27299 | University of Engineering & Technology, Peshawar | Jalozai | Electrical | 'Performance Enhancement of Photovoltaic Cell using Thermal Electric Cooling TEC' |
| 1316 | NGIRI-2024-27792 | University of Engineering & Technology, Peshawar | Peshawar | Mechanical Engineering | 'Design and Fabrication of Life Saving Robot U buoy' |
| 1317 | NGIRI-2024-28146 | University of Engineering & Technology, Peshawar | Jalozai | Mechanical Engineering | 'Chainless Leverage Bicycle ' |
| 1318 | NGIRI-2024-28201 | University of Engineering & Technology, Peshawar | Jalozai | Electrical | 'An IOT based vehicle security and control' |
| 1319 | NGIRI-2024-28286 | University of Engineering & Technology, Peshawar | Jalozai | Electrical | 'IOT Based Smart Switch Board Technology for Smart Home' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|-----------|--------|-----------|-----------|
| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1320 | NGIRI-2024-29572 | University of Engineering & Technology, Peshawar | Jalozai | Civil Engineering | 'Utilizing Novel Machine learning Techniques to predict the compressive strength of graphene Nano particles reinforced Cementitious composites ' |
| 1321 | NGIRI-2024-29823 | University of Engineering & Technology, Peshawar | Peshawar | Industrial Electronics | 'Factorial design to optimize dye removal from wastewater in a local textile industry' |
| 1322 | NGIRI-2024-23294 | University of Engineering & Technology, Taxila | Taxila | Software Engineering | 'Clone My Voice' |
| 1323 | NGIRI-2024-23363 | University of Engineering & Technology, Taxila | Taxila | Computer Engineering | 'NeuroAd EEG Based Personalized Ad Preference Prediction' |
| 1324 | NGIRI-2024-23673 | University of Engineering & Technology, Taxila | Taxila | Mechanical Engineering | 'Fabrication of 3D Printer Filament from Waste Bottles ' |
| 1325 | NGIRI-2024-24179 | University of Engineering & Technology, Taxila | Taxila | Electrical | 'Orchard Management and Monitoring via UAS' |
| 1326 | NGIRI-2024-24537 | University of Engineering & Technology, Taxila | Taxila | Computer Engineering | 'Enhancing user experience through scented media' |
| 1327 | NGIRI-2024-25616 | University of Engineering & Technology, Taxila | Taxila | Electrical | 'Design and Fabrication of Smart Portable Certification System' |
| 1328 | NGIRI-2024-26118 | University of Engineering & Technology, Taxila | Taxila | Software Engineering | 'Sight Sync' |
| 1329 | NGIRI-2024-26141 | University of Engineering & Technology, Taxila | Taxila | Software Engineering | 'Pixelizedpng Smart Photo Distribution for Events' |
| 1330 | NGIRI-2024-26635 | University of Engineering & Technology, Taxila | Taxila | Computer Engineering | 'EIn-Mirror Emotional Intelligent Mirror ' |
| 1331 | NGIRI-2024-26869 | University of Engineering & Technology, Taxila | Taxila | Telecom Engineering | 'Data Collection In Wireless Sensing Network with Multiple Robotic' |
| 1332 | NGIRI-2024-27192 | University of Engineering & Technology, Taxila | Taxila | Electrical Engineering | 'Solar Induction Wireless Electric Vehicle Charging Station' |
| 1333 | NGIRI-2024-27415 | University of Engineering & Technology, Taxila | Taxila | Electrical Engineering | 'Design and Analysis of Electric Bicycle with Dual Axis Solar Tracking Mechanism using UV Sensors' |
| 1334 | NGIRI-2024-28648 | University of Engineering & Technology, Taxila | Taxila | Electrical Engineering | 'Solid State Transformer Based Electric Vehicle Charger ' |
| 1335 | NGIRI-2024-29120 | University of Engineering & Technology, Taxila | Taxila | Computer Engineering | 'CuddleCare Health and Behavioral Monitoring of Neonates using Deep Learning and Computer Vision' |
| 1336 | NGIRI-2024-23550 | University of Engineering & Technology,Mardan | Mardan | Electrical Engineering | 'Design, Identification and Implementation of an acoustic-based Gunshot Detection and Localization System' |
| 1337 | NGIRI-2024-23920 | University of Engineering & Technology,Mardan | Mardan | Telecom Engineering | 'Multiband Antennas With Reduced Mutual Coupling and Low Wrist Effect for Next Generation of Smart Watches' |
| 1338 | NGIRI-2024-23921 | University of Engineering & Technology,Mardan | Mardan | Telecom Engineering | 'Smart agriculture system ' |
| 1339 | NGIRI-2024-23940 | University of Engineering & Technology,Mardan | Mardan | Computer Science | 'Facemimic' |
| 1340 | NGIRI-2024-23947 | University of Engineering & Technology,Mardan | Mardan | Computer Science | 'Digitization of Governor Secretariat' |
| 1341 | NGIRI-2024-23969 | University of Engineering & Technology,Mardan | Mardan | Electrical Power Engineering | 'Modeling Of Gas Detecting Device For Providing Safety' |
| 1342 | NGIRI-2024-24542 | University of Engineering & Technology,Mardan | Mardan | Computer Science | 'Automated Sinusitis Detection using Deep Learning' |
| 1343 | NGIRI-2024-25002 | University of Engineering & Technology,Mardan | Mardan | Electrical Engineering | 'Enhancing Hydroelectric efficiency with water recycling using solar energy' |
| 1344 | NGIRI-2024-25141 | University of Engineering & Technology,Mardan | Mardan | Electrical Engineering | 'To design Solar Powered Water Surface Garbage Collecting Boat' |
| 1345 | NGIRI-2024-25193 | University of Engineering & Technology,Mardan | Mardan | Electrical | 'Voice activated, body detecting and auto temperature adjusting IoT shower Valve.' |
| 1346 | NGIRI-2024-25324 | University of Engineering & Technology,Mardan | Mardan | Telecom Engineering | 'Iot based cattle farm monitoring system' |
| 1347 | NGIRI-2024-25455 | University of Engineering & Technology,Mardan | Mardan | Telecom Engineering | 'Design and Analysis of Metamaterial based Wearable Antennas for Communication and Medical Application' |
| 1348 | NGIRI-2024-29706 | University of Engineering & Technology,Mardan | Mardan | Electrical Engineering | 'Solar Based Smart Grass Cutting Robot' |
| 1349 | NGIRI-2024-24306 | University of Gujrat | Hafiz Hayat | Electrical Engineering | 'stereo vision navigation of quadruped robot' |
| 1350 | NGIRI-2024-27779 | University of Gujrat | Hafiz Hayat | Electrical Engineering | 'Multi Modal Gaze Shifting with Visual and Acoustic Information' |
| 1351 | NGIRI-2024-28042 | University of Gujrat | Hafiz Hayat | Electrical Engineering | 'Lower limb exoskeleton for rehabilitation' |
| 1352 | NGIRI-2024-28163 | University of Gujrat | Hafiz Hayat | Electrical Engineering | 'Steering control of Ackerman architecture weed managing mobile robot ' |
| 1353 | NGIRI-2024-29890 | University of Gujrat | Hafiz Hayat | Computer System | 'PlayPulse' |
| 1354 | NGIRI-2024-29549 | University of Jhang | Main | Computer Science & IT | '3D-PRINTED â€˜THIRD THUMBâ€™ ON HUMAN AUGMENTATION' |
| 1355 | NGIRI-2024-29714 | University of Jhang | Main | Computer Science & IT | 'Talking Alert ' |

| National Grassroot ICT Research Initiative (NGIRI) 2023-24 | | | | |
|---|---|---|---|---|
| **Shortlisted FYPs** | | | | |
| S.No | FYP Code | University | Campus | Department | FYP Title |
|---|---|---|---|---|---|
| 1356 | NGIRI-2024-27721 | University of Karachi | Main | Computer Science | 'Pathological Lab System' |
| 1357 | NGIRI-2024-27728 | University of Karachi | Main | Computer Science | 'AI Sign-to-Speech: Empowering Deaf Communication' |
| 1358 | NGIRI-2024-27730 | University of Karachi | Main | Computer Science | 'Envision Specs Glasses â€"Assistive Device for the Visually Impaired Using Deep Learning Model' |
| 1359 | NGIRI-2024-27743 | University of Karachi | Main | Software Engineering | 'Therappy: Revolutionizing Mental Health Access' |
| 1360 | NGIRI-2024-29358 | University of Karachi | Main | Computer Science | 'Customised LLM Application for Ubit' |
| 1361 | NGIRI-2024-29460 | University of Karachi | Main | Software Engineering | 'SheDrive' |
| 1362 | NGIRI-2024-24294 | University of Kotli | Main Campus | Computing and Technology | 'Child safety monitoring system with wearable camera' |
| 1363 | NGIRI-2024-27220 | University of Kotli | Main Campus | Computer Science & IT | 'Smart Computer Vision System' |
| 1364 | NGIRI-2024-27399 | University of Kotli | Main Campus | Computer Science & IT | 'TomatoTally: AI-Powered Tomato Fruit Tracker' |
| 1365 | NGIRI-2024-27545 | University of Kotli | Main Campus | Software Engineering | 'Green Links ' |
| 1366 | NGIRI-2024-28190 | University of Kotli | Main Campus | Computer Science & IT | 'HumanResource Management in the age of Artificial Intellgience ' |
| 1367 | NGIRI-2024-24639 | University of Lakki Marwat | Main | Computer Science & IT | 'Multimodal Dental Caries Classification and Segmentation Using Hybrid Convolutional Neural Networks' |
| 1368 | NGIRI-2024-27323 | University of Malakand | Chakdara | Software Engineering | 'ADHD Detection Model' |
| 1369 | NGIRI-2024-28654 | University of Malakand | Chakdara | Computer Science & IT | 'Pushto Speech to Text Processing System using Deep Learning and Transformers' |
| 1370 | NGIRI-2024-30119 | University of Malakand | Chakdara | Software Engineering | 'Fuel Petrol High Speed Diesel and LPG price prediction using ML and DL' |
| 1371 | NGIRI-2024-23288 | University of Management and Technology | Lahore | Computer Science | 'Domain-Specific Contextual Smart Embedding for Medical Question Answering ChatBot' |
| 1372 | NGIRI-2024-23778 | University of Management and Technology | Sialkot | Electrical Engineering | 'Automatic Power Factor Correction for Power Quality Improvement Using ATmega328' |
| 1373 | NGIRI-2024-24198 | University of Management and Technology | Lahore | Mechanical Engineering | 'Belt and Pulley controlled BiPAP ventilation and patient monitoring system' |
| 1374 | NGIRI-2024-24320 | University of Management and Technology | Lahore | Computer Science & IT | 'AI Deep Fake Detection' |
| 1375 | NGIRI-2024-25214 | University of Management and Technology | Lahore | Electrical Engineering | 'IoT Based Smart Health Monitoring System' |
| 1376 | NGIRI-2024-25302 | University of Management and Technology | Lahore | Electrical Engineering | ' CATTLE MONITORING SYSTEM USING SMART SENSORS FOR HEALTH MONITORING and CATTLE MANAGEMENT' |
| 1377 | NGIRI-2024-25547 | University of Management and Technology | Lahore | Mechanical Engineering | 'Design and Development of an Energy-Efficient Grain Dryer system' |
| 1378 | NGIRI-2024-25645 | University of Management and Technology | Lahore | Mechanical Engineering | 'Design and Development of Autonomous Exoskeleton Arm for Enhanced Rehabilitation of Paralyzed Patients' |
| 1379 | NGIRI-2024-25749 | University of Management and Technology | Lahore | Electrical | 'wearable health monitoring deice using iot' |
| 1380 | NGIRI-2024-25943 | University of Management and Technology | Lahore | Electrical Engineering | 'Gesture controlled robotic arm using leap Motion controller 2 ' |
| 1381 | NGIRI-2024-26168 | University of Management and Technology | Lahore | Electrical Engineering | 'Indoor Localization System' |
| 1382 | NGIRI-2024-26582 | University of Management and Technology | Lahore | Mechanical Engineering | 'Indigenous Design and Development of a Portable Automated CPR Machine with Integrated Vital Monitoring for Enhanced Emergency Medical Care: A Cost-Effective Solution for Low-ResourceÂ Settings' |
| 1383 | NGIRI-2024-26707 | University of Management and Technology | Sialkot | Computer Science & IT | 'Machine Learning Incorporating Surveillance & logging Using Computer Vision' |
| 1384 | NGIRI-2024-25557 | University of Mianwali | Main | Information Technology | 'LifeConnect' |
| 1385 | NGIRI-2024-24241 | University of Narowal | Main | Computer Science & IT | 'Health card integration in HMS ' |
| 1386 | NGIRI-2024-24251 | University of Narowal | Main | Computer Science & IT | 'Automated Social Media Content Moderator Using Machine Learning' |
| 1387 | NGIRI-2024-24268 | University of Narowal | Main | Computer Science | 'Real Time Sign Language Detection' |
| 1388 | NGIRI-2024-24296 | University of Narowal | Main | Computer Science | 'Lungs Disease Detection and Cancer Risk Prediction Using AI' |
| 1389 | NGIRI-2024-24932 | University of Narowal | Main | Computer Science | 'Para Gesture Talk' |
| 1390 | NGIRI-2024-27438 | University of Narowal | Main | Computer Science | ' Detection of Cyber attacks through ML' |
| 1391 | NGIRI-2024-26492 | University of Peshawar | Peshawar | Electronics | 'DESIGN AND IMPLEMENTATION OF â€œSMART PRAYER MATâ€•' |

## National Grassroot ICT Research Initiative (NGIRI) 2023-24

### Shortlisted FYPs

| S.No | FYP Code | University | Campus | Department | FYP Title |
|------|----------|------------|--------|------------|-----------|
| 1392 | NGIRI-2024-26493 | University of Peshawar | Peshawar | Electronics | 'Computer Vision based Follow Me Shopping cart with Billing System' |
| 1393 | NGIRI-2024-23365 | University of Sargodha | Main | Electrical Engineering | 'ADVANCED INFUSION PUMP USING IOT.' |
| 1394 | NGIRI-2024-23394 | University of Sargodha | Main | Electrical | 'IOT-Based 3-Phase Load and Fault Analysis with Phase Shifting andÂ Auto-Reset' |
| 1395 | NGIRI-2024-23542 | University of Sargodha | Main | Electrical Engineering | 'IOT Based Railway Inspection System A smart Approach To Improve Safety and Reliability ' |
| 1396 | NGIRI-2024-23613 | University of Sargodha | Main | Electrical Engineering | 'Smart Road Safety and Vehicle accident prevention, detection and reporting system for Mountain roads' |
| 1397 | NGIRI-2024-23801 | University of Sargodha | Main | Mechanical Engineering | 'Optimization of sand battery for effective heatÂ transfer' |
| 1398 | NGIRI-2024-24354 | University of Sargodha | Main | Computer Science & IT | 'News Wave' |
| 1399 | NGIRI-2024-24359 | University of Sargodha | Main | Computer Science & IT | 'Triple Negative Breast Cancer Classification Using Machine Learning' |
| 1400 | NGIRI-2024-24367 | University of Sargodha | Main | Mechanical Engineering | 'Development of a Bio Micromachining Process based on bacterial ink for Surface Texturing' |
| 1401 | NGIRI-2024-24551 | University of Sargodha | Main | Computer Science & IT | 'EmoIslam' |
| 1402 | NGIRI-2024-24557 | University of Sargodha | Main | Information Technology | 'ShopSmart ' |
| 1403 | NGIRI-2024-24572 | University of Sargodha | Main | Electrical/Electronics Engineering | 'Dynamic Balancing Of Rotary Inverted Pendulum' |
| 1404 | NGIRI-2024-24845 | University of Sargodha | Main | Computer Science & IT | 'GDPR Compliance Scanner' |
| 1405 | NGIRI-2024-25034 | University of Sargodha | Main | Information Technology | 'Shifting Realities A Tale of Three Worlds' |
| 1406 | NGIRI-2024-25267 | University of Sargodha | Main | Software Engineering | 'MindMate' |
| 1407 | NGIRI-2024-25270 | University of Sargodha | Main | Software Engineering | 'Gobang' |
| 1408 | NGIRI-2024-25479 | University of Sargodha | Main | Software Engineering | 'EcoSmart' |
| 1409 | NGIRI-2024-27630 | University of Sargodha | Main | Information Technology | 'Pharmacy Management System With AI Doctor' |
| 1410 | NGIRI-2024-27640 | University of Sargodha | Main | Electrical Engineering | 'Comparative analysis of soil nutrients from Sargodha and Gujrat region for citrus production' |
| 1411 | NGIRI-2024-27663 | University of Sargodha | Main | Information Technology | 'IOT Based card Accident Detection and rescue system' |
| 1412 | NGIRI-2024-27973 | University of Sargodha | Main | Computer Science | 'Lost And Found item' |
| 1413 | NGIRI-2024-27999 | University of Sargodha | Main | Computer Science | 'SkinCare Mart' |
| 1414 | NGIRI-2024-28017 | University of Sargodha | Main | Computer Science | 'SEO Strategy Advisor' |
| 1415 | NGIRI-2024-28835 | University of Sargodha | Main | Software Engineering | 'Citrus Disease Detection' |
| 1416 | NGIRI-2024-26225 | University of Science & Technology | Main | Software Engineering | 'Efficient Skin Cancer Detection using Ensemble of Machine Learning and Deep Learning Techniques with Image Super-Resolution' |
| 1417 | NGIRI-2024-27223 | University of Science & Technology | Main | Software Engineering | 'Online Ticket Booking System' |
| 1418 | NGIRI-2024-27330 | University of Science & Technology | Main | Software Engineering | 'Community Services' |
| 1419 | NGIRI-2024-27865 | University of Science & Technology | Main | Software Engineering | 'ECOMMERCE CHATBOT' |
| 1420 | NGIRI-2024-29853 | University of Science & Technology | Main | Electrical Engineering | 'Anti Earthquake Bed' |
| 1421 | NGIRI-2024-23686 | University of Sialkot, Sialkot | Sialkot | Software Engineering | 'SaadaMove A Gamified Rehabilitation Solution Using Motion Detection' |
| 1422 | NGIRI-2024-23695 | University of Sialkot, Sialkot | Sialkot | Software Engineering | 'Blindsight ' |
| 1423 | NGIRI-2024-23696 | University of Sialkot, Sialkot | Sialkot | Software Engineering | 'Apple Disease Detection using leaf images' |
| 1424 | NGIRI-2024-23698 | University of Sialkot, Sialkot | Sialkot | Software Engineering | 'CardioPulse: Cardiovascular disease Prediction through an Integrated Machine Learning Framework' |
| 1425 | NGIRI-2024-23945 | University of Sialkot, Sialkot | Sialkot | Computer Science | 'Personality Prediction through CV Analysis' |
| 1426 | NGIRI-2024-23983 | University of Sialkot, Sialkot | Sialkot | Computer Science | 'AI Based Learning System for Deaf Community' |
| 1427 | NGIRI-2024-24193 | University of Sialkot, Sialkot | Sialkot | Computer Science | 'Rapid Fire Fighting Robot Car' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
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| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1428 | NGIRI-2024-25384 | University of Sialkot, Sialkot | Sialkot | Information Technology | 'Self Balancing robot for restaurant' |
| 1429 | NGIRI-2024-25916 | University of Sialkot, Sialkot | Sialkot | Computer System | 'Application for smart hydroponics system in pakistan' |
| 1430 | NGIRI-2024-26147 | University of Sialkot, Sialkot | Sialkot | Computer System | 'hydroponic system for rice' |
| 1431 | NGIRI-2024-26852 | University of Sialkot, Sialkot | Sialkot | Computer Science | 'Swim Eye â€" IOT Drowning Detector' |
| 1432 | NGIRI-2024-27843 | University of Sialkot, Sialkot | Sialkot | Computing and Technology | 'Smart burner ' |
| 1433 | NGIRI-2024-28005 | University of Sialkot, Sialkot | Sialkot | Information Technology | 'Elektron Guardian' |
| 1434 | NGIRI-2024-23620 | University of Sindh | Allama I.I Kazi | Information Technology | 'Real-time Pothole Detection with YOLO-v7 for Autonomous Vehicles' |
| 1435 | NGIRI-2024-24637 | University of Sindh | Allama I.I Kazi | Software Engineering | 'Advanced Spying & Bomb Disposal Robot' |
| 1436 | NGIRI-2024-25169 | University of Sindh | Badin | Computer Science | '360 degree fire fightingÂ robot' |
| 1437 | NGIRI-2024-25376 | University of Sindh | Badin | Computer Science | 'Obstacle Detection System with Voice Commands for visually impaired People' |
| 1438 | NGIRI-2024-25585 | University of Sindh | Badin | Computer Science | 'Smart Agriculture Land' |
| 1439 | NGIRI-2024-25724 | University of Sindh | Badin | Computer System | 'Tambora Music Player' |
| 1440 | NGIRI-2024-27710 | University of Sindh | Allama I.I Kazi | Software Engineering | 'ARchitect Design Your Space with Augmented Reality' |
| 1441 | NGIRI-2024-27738 | University of Sindh | Allama I.I Kazi | Electronics Engineeering | 'GREEN: Automated Fertilizer Mixing and Dispensing System' |
| 1442 | NGIRI-2024-27785 | University of Sindh | Badin | Computer Science | 'Sindhi Dictionary' |
| 1443 | NGIRI-2024-27901 | University of Sindh | Allama I.I Kazi | Electronics Engineeering | ' Industrial Heat Recovery for Green Energy Generation' |
| 1444 | NGIRI-2024-28283 | University of Sindh | Allama I.I Kazi | Electronics | 'Design and implementation of industrial Robotic Arm for pick and Place services ' |
| 1445 | NGIRI-2024-28590 | University of Sindh | Mirpur Khas | Information Technology | 'Handy3' |
| 1446 | NGIRI-2024-29368 | University of Sindh | Allama I.I Kazi | Software Engineering | 'EduGuide Bot' |
| 1447 | NGIRI-2024-29369 | University of Sindh | Allama I.I Kazi | Software Engineering | 'FYPease an AI Base' |
| 1448 | NGIRI-2024-27774 | University of Sufism and Modern Sciences, Bhitshah Sindh | Main | Computer Science | 'Diabetes Prediction System' |
| 1449 | NGIRI-2024-28913 | University of Sufism and Modern Sciences, Bhitshah Sindh | Main | Information Technology | PD-RPP: An AI-driven framework for plant disease and recommendation precaution Pesticides with integrated chatbotÂ assistant |
| 1450 | NGIRI-2024-28368 | University of Swabi | Main | Computer Science | 'Autonomous Landing Of Unmanned Aerial Vehicles On Moving Platform Using Computer Vision' |
| 1451 | NGIRI-2024-25825 | University of Swat | Main | Science & Technology | 'Numerical analysis of unconditional positivity-preserving method for age-structured SIR epidemic model' |
| 1452 | NGIRI-2024-28916 | University of Swat | Main | Computing and Technology | 'Formulation and Dynamical Aspects of Social Media Addiction and Depression Model Via Nonlinear Indcidence Rate' |
| 1453 | NGIRI-2024-29817 | University of Swat | Main | Computing and Technology | 'Development of Einstein Aggregation operators Using The Complex Neutrosophic information And Their Application In Decision Making' |
| 1454 | NGIRI-2024-29947 | University of Swat | Main | Computer & Information System Engineering | 'Dry and wet segregation ' |
| 1455 | NGIRI-2024-29959 | University of Swat | Main | Science & Technology | 'Exploring and managing strategies of infectious diseases through mathematical analysis' |
| 1456 | NGIRI-2024-29991 | University of Swat | Main | Computing and Technology | 'Optimal Control Of Leaf Brown Spot Disease Of Rice Model ' |
| 1457 | NGIRI-2024-26824 | University of Technology Nowshera (Shuhada-e-APS) | Main | Energy System Engineering | 'An IoT Based smart System for Thermal Heat Management of PV panels for a Solar Power Plant' |
| 1458 | NGIRI-2024-26853 | University of Technology Nowshera (Shuhada-e-APS) | Main | Energy System Engineering | 'IOT BASE SOLAR MONITORING AND CLEANING SYSTEM' |
| 1459 | NGIRI-2024-27198 | University of Technology Nowshera (Shuhada-e-APS) | Main | Electrical Engineering | 'Next generation smart wheel chair with a futuristic approach' |
| 1460 | NGIRI-2024-27250 | University of Technology Nowshera (Shuhada-e-APS) | Main | Mechanical Engineering | 'AUTOMATIC WASTE COLLECTION SYSTEM' |
| 1461 | NGIRI-2024-27272 | University of Technology Nowshera (Shuhada-e-APS) | Main | Energy System Engineering | 'Solar powered portable advertising wireless message display' |
| 1462 | NGIRI-2024-27717 | University of Technology Nowshera (Shuhada-e-APS) | Main | Information Technology | 'Design and Development of Smart Fruit dehydration using Android Application ' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
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| | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** | | | |
| | | **Shortlisted FYPs** | | | |
| 1463 | NGIRI-2024-27780 | University of Technology Nowshera (Shuhada-e-APS) | Main | Electrical Engineering | 'Solar power drone ' |
| 1464 | NGIRI-2024-27851 | University of Technology Nowshera (Shuhada-e-APS) | Main | Electrical Engineering | 'Upgradation of tradition home ups convert to smart control hybrid solar system ' |
| 1465 | NGIRI-2024-29048 | University of Technology Nowshera (Shuhada-e-APS) | Main | Electrical | 'Solar powered water purification system ' |
| 1466 | NGIRI-2024-29735 | University of Technology Nowshera (Shuhada-e-APS) | Main | Mechanical Engineering | 'Manually patient care wheelchair system ' |
| 1467 | NGIRI-2024-29844 | University of Technology Nowshera (Shuhada-e-APS) | Main | Mechanical Engineering | 'Solar powered bicycle/kart vehicle ' |
| 1468 | NGIRI-2024-29946 | University of Technology Nowshera (Shuhada-e-APS) | Main | Mechanical Engineering | 'Advancing Dynamo Systems for Sustainable and Cost-Free Electricity Generation' |
| 1469 | NGIRI-2024-25859 | University of the Poonch | Main | Electrical Engineering | 'Design and Implementation of IoT-Enabled Seebeck Thermoelectric Generator for Sustainable Energy Harvesting' |
| 1470 | NGIRI-2024-27029 | University of the Poonch | Main | Software Engineering | 'Tutor Connect System' |
| 1471 | NGIRI-2024-27058 | University of the Poonch | Main | Electrical Engineering | 'Automatic Traffic Signal Control system for emergency vehicle using NRF module ' |
| 1472 | NGIRI-2024-27083 | University of the Poonch | Main | Electrical Engineering | 'designing and analysis of monitoring systems to improve networking in communication devices' |
| 1473 | NGIRI-2024-27356 | University of the Poonch | Main | Electrical Engineering | 'Design an Ambient Light Responsive(ALS) Automatic Vehicle Headlight Control System' |
| 1474 | NGIRI-2024-27814 | University of the Poonch | Main | Computer Science & IT | 'Auto Listing Genius' |
| 1475 | NGIRI-2024-28127 | University of the Poonch | Main | Computer Science & IT | 'Web Shield Guardian Against Digital theard' |
| 1476 | NGIRI-2024-28292 | University of the Poonch | Main | Computer Science & IT | 'Waste food Management app' |
| 1477 | NGIRI-2024-29183 | University of the Poonch | Main | Computer Science & IT | 'AI based health tracker app for diabetic patients' |
| 1478 | NGIRI-2024-23261 | University of Wah | Quaid | Computer Science | 'Voice based expert System for Handicapped' |
| 1479 | NGIRI-2024-23327 | University of Wah | Wah Engineering College | Mechatronics Engineering | 'AI Based Control of Prosthetic Hand using sEMG and Arm Kinematics' |
| 1480 | NGIRI-2024-23335 | University of Wah | Wah Engineering College | Electrical Engineering | 'Design and development of urdu language based voice controlled wheel chair with obstacle avoidance' |
| 1481 | NGIRI-2024-23353 | University of Wah | Wah Engineering College | Electrical Engineering | 'Design and Development of Bottle Filling and Capping System Using Dc Servo Motor ' |
| 1482 | NGIRI-2024-23431 | University of Wah | Quaid | Computer Science | 'Smart Trolley and Automated Billing System' |
| 1483 | NGIRI-2024-23536 | University of Wah | Wah Engineering College | Electrical Engineering | 'IOT Based Solar powered intelligent grass cutting robot with obstacle avoidance' |
| 1484 | NGIRI-2024-24165 | University of Wah | Quaid | Computer Science | Decentralized Land Registry System |
| 1485 | NGIRI-2024-24230 | University of Wah | Quaid | Computer System | Industrial Safety System |
| 1486 | NGIRI-2024-24233 | University of Wah | Wah Engineering College | Mechanical Engineering | 'Phase Change Materials in building envelopes for energy savings.' |
| 1487 | NGIRI-2024-24253 | University of Wah | Quaid | Computer System | 'E-Votex ' |
| 1488 | NGIRI-2024-24261 | University of Wah | Wah Engineering College | Mechanical Engineering | 'Design and development of composite helmet to resist high velocity impact' |
| 1489 | NGIRI-2024-24305 | University of Wah | Wah Engineering College | Mechatronics Engineering | 'design and development of portable exhaust emission analyzer for two wheeler vehicles' |
| 1490 | NGIRI-2024-24370 | University of Wah | Wah Engineering College | Mechatronics Engineering | 'Design and Implementation of AI powered Soft Robotic Gripper for Fruit Harvesting' |
| 1491 | NGIRI-2024-24373 | University of Wah | Quaid | Computer Science | 'Classic Grand Marque Website' |
| 1492 | NGIRI-2024-24455 | University of Wah | Wah Engineering College | Mechanical Engineering | 'Impact and CAI testing of hybrid composites structure between glassÂ andÂ juteÂ fiber' |
| 1493 | NGIRI-2024-24799 | University of Wah | Wah Engineering College | Mechatronics Engineering | 'IoT-Driven Smart Helmets: Redefining the Landscape of Motorbike Safety' |
| 1494 | NGIRI-2024-23707 | Usman Institute of Technology | Karachi | Computer System Engineering | 'MJ WALKERS ' |
| 1495 | NGIRI-2024-25532 | Usman Institute of Technology | Karachi | Electrical Power Engineering | 'Development of scada system for Wind power plant' |
| 1496 | NGIRI-2024-25573 | Usman Institute of Technology | Karachi | Electrical Engineering | 'Fabric Inspection Through Machine Learning' |
| 1497 | NGIRI-2024-25872 | Usman Institute of Technology | Karachi | Computer System Engineering | 'Smart Living Centralized Mobile Application ' |
| 1498 | NGIRI-2024-26050 | Usman Institute of Technology | Karachi | Computer System | 'Ceramic Tiles Quality Inspection' |
| 1499 | NGIRI-2024-26144 | Usman Institute of Technology | Karachi | Electrical/Electronics Engineering | 'IOT based soil testing probe for sustainable agricultural productivity' |
| 1500 | NGIRI-2024-26588 | Usman Institute of Technology | Karachi | Electrical Power Engineering | 'Smart Prepaid Energy Meter' |
| 1501 | NGIRI-2024-26840 | Usman Institute of Technology | Karachi | Electrical Engineering | 'Adaptive Cruise control' |

| S.No | FYP Code | University | Campus | Department | FYP Title |
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| | | | | | **National Grassroot ICT Research Initiative (NGIRI) 2023-24** |
| | | | | | **Shortlisted FYPs** |
| 1502 | NGIRI-2024-27128 | Usman Institute of Technology | Karachi | Electrical Engineering | 'AI Based Lithium Battery Testing For EV' |
| 1503 | NGIRI-2024-27994 | Usman Institute of Technology | Karachi | Electrical Engineering | 'Self Service Fuel Station' |
| 1504 | NGIRI-2024-28889 | Usman Institute of Technology | Karachi | Computer Science | 'Analyticube Data Insights Through Web OLAP' |
| 1505 | NGIRI-2024-29751 | Usman Institute of Technology | Karachi | Software Engineering | 'Textile Tech' |
| 1506 | NGIRI-2024-29772 | Usman Institute of Technology | Karachi | Software Engineering | 'Enigma AI' |
| 1507 | NGIRI-2024-29783 | Usman Institute of Technology | Karachi | Software Engineering | 'HelmSecure Vision' |
| 1508 | NGIRI-2024-29792 | Usman Institute of Technology | Karachi | Computer Science | 'Turbo Dialect' |
| 1509 | NGIRI-2024-29807 | Usman Institute of Technology | Karachi | Computer Science & IT | 'Shoplabz' |
| 1510 | NGIRI-2024-29824 | Usman Institute of Technology | Karachi | Software Engineering | 'MentorConnects' |
| 1511 | NGIRI-2024-29901 | Usman Institute of Technology | Karachi | Computer Science | 'Video Search By Image Query' |
| 1512 | NGIRI-2024-29990 | Usman Institute of Technology | Karachi | Computer Science | 'Intellitrader' |
| 1513 | NGIRI-2024-29127 | Virtual University of Pakistan | Main | Computer Science & IT | 'e Carpool' |
| 1514 | NGIRI-2024-25792 | Women University AJK | Main | Computer Science & IT | 'Pharma Link Android Application' |
| 1515 | NGIRI-2024-25794 | Women University AJK | Main | Computer Science & IT | 'Machine Learning Models for Predicting Heart Failure' |
| 1516 | NGIRI-2024-25801 | Women University AJK | Main | Computer Science & IT | Women University Alumni Portal |
| 1517 | NGIRI-2024-25838 | Women University AJK | Main | Computer Science | Traffic Flow Prediction using Machine Learning |
| 1518 | NGIRI-2024-25897 | Women University AJK | Main | Computer Science & IT | Augmented Reality Shopping Experience Application |
| 1519 | NGIRI-2024-26008 | Women University AJK | Main | Computer Science | Predictive Modeling of Salary: Harnessing Diverse Datasets for Accurate Projections |
| 1520 | NGIRI-2024-24399 | Ziauddin University, ZUFEST | North Nazimabad | Software Engineering | 'AI-based Traffic Congestion Pattern and Unauthorized Parking Control System Using YOLOv8' |
| 1521 | NGIRI-2024-24562 | Ziauddin University, ZUFEST | North Nazimabad | Software Engineering | 'ArticuLearn An Application Journey from sound to speech mystery for speech sound disorder' |
| 1522 | NGIRI-2024-24907 | Ziauddin University, ZUFEST | North Nazimabad | Software Engineering | 'Developing a deep learning segmentation model to identify polyps in upper gastrointestinal endoscopy.' |
| 1523 | NGIRI-2024-24911 | Ziauddin University, ZUFEST | North Nazimabad | Software Engineering | 'Unmasking tuberculosis Early Detection Using Chest Xray Images' |
| 1524 | NGIRI-2024-25390 | Ziauddin University, ZUFEST | North Nazimabad | Electrical Engineering | 'Vehicle Monitoring System Using GIS Technology' |
| 1525 | NGIRI-2024-26486 | Ziauddin University, ZUFEST | North Nazimabad | Biomedical Engineering | 'A machine learning model for photocatalytic dye degradation of silk fabric functionalized with TiO2/cellulose nanocomposite' |
| 1526 | NGIRI-2024-26730 | Ziauddin University, ZUFEST | North Nazimabad | Civil Engineering | 'Fresh and Hardened Properties of 3D Printed Fly-Ash Based Concrete for Sustainable Automated Construction' |
| 1527 | NGIRI-2024-26787 | Ziauddin University, ZUFEST | North Nazimabad | Civil Engineering | 'DESIGNING AND CONSTRUCTING OF MULTI-STAGE GRAVEL FILTER TO REDUCE TSS (TOTAL SUSPENDED SOLIDS) FROM REJECTED WATER OF RO PLANT.' |
| 1528 | NGIRI-2024-27766 | Ziauddin University, ZUFEST | North Nazimabad | Electrical Engineering | 'Load Management System for Efficient Electricity Consumption' |
| 1529 | NGIRI-2024-28560 | Ziauddin University, ZUFEST | North Nazimabad | Electrical Engineering | ' Implementation of Robotic Arm Weighing Technology for Carton Weight Verification ' |