

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13927	'TO DESIGN AND IMPLEMENTATION OF PURE SINE WAVE INVERTER'	Abasyn University	Islamabad	Electrical Engineering
NGIRI-2022-11077	'Generation of Electric Power Through Road Traffic Wind'	Abasyn University	Peshawar	Electrical Engineering
NGIRI-2022-11444	'Real Time Facial Mask Detection Using Machine Learning '	Abasyn University	Peshawar	Electrical Engineering
NGIRI-2022-11170	'SMART RSafety Application women safety app'	Abbottabad University of Science And Technology	Havelian	Computer Science
NGIRI-2022-11258	'AUST RESULT PORTAL'	Abbottabad University of Science And Technology	Havelian	Computer Science
NGIRI-2022-11798	'IoT Bassed Weather Reporting'	Abbottabad University of Science And Technology	Havelian	Computer Science
NGIRI-2022-11900	'Context Aware IoT Based Smart Monitoring and Safety Application '	Abbottabad University of Science And Technology	Havelian	Computer Science
NGIRI-2022-13038	'docbook'	Abbottabad University of Science And Technology	Havelian	Software Engineering
NGIRI-2022-13050	'Salons booking app'	Abbottabad University of Science And Technology	Havelian	Computer Science
NGIRI-2022-11152	'IoT based Smart Car'	Abdul Wali Khan University	Mardan	Computer Science
NGIRI-2022-16110	'Face Recognition Based Automated Attendance Portal '	Abdul Wali Khan University	Mardan	Computer Science
NGIRI-2022-13571	'Smart Energy Net Metering with IoT'	Al-Hamd Islamic University	Quetta	Computer Science
NGIRI-2022-11924	'Blindstick using arduino UNO and GPS tracking system with dbms'	Allama Iqbal Open University	Main	Computer Science & IT
NGIRI-2022-15713	'Mehfooz Ghar IOT Based Home Automation With Security'	Bacha Khan University	Main Campus	Computer Science
NGIRI-2022-16040	'IOT based poultry farm temperature controller'	Bacha Khan University	Main Campus	Computer Science
NGIRI-2022-11564	'Automated Grass Trimming Robot'	Bahria University	Islamabad	Electrical Engineering
NGIRI-2022-11650	'Non Invasive Medical Device for Parkinson\'s patients with Episodes of Freezing Gait'	Bahria University	Islamabad	Electrical Engineering
NGIRI-2022-11868	'automated analysis of patient response after chiropractic interventions through machine learning'	Bahria University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-11991	'Aqurator'	Bahria University	Islamabad	Electrical Engineering
NGIRI-2022-12005	'Hot water and post harvest treatment plant for fruits'	Bahria University	Islamabad	Electrical Engineering
NGIRI-2022-12082	'Snake Robot'	Bahria University	Islamabad	Electrical Engineering
NGIRI-2022-12088	'DEVELOPMENT OF TEST BED FOR BATTERY HEALTH MONITORING AND MANAGEMENT FOR AEROSPACE APPLICATIONS'	Bahria University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-12106	'Vehicle Detection using Artificial Intelligence'	Bahria University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-12112	'DESIGNING OF ELECTRIC VEHICLES SPEED CONTROLLER'	Bahria University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-12145	'Solar concentrator system '	Bahria University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-12737	'IRIS CONTROLLED WHEEL CHAIR'	Bahria University	Islamabad	Computer Engineering
NGIRI-2022-12748	'Self Autonomous Robot using ROS'	Bahria University	Islamabad	Computer Engineering
NGIRI-2022-12542	'Impact Estimation of SMOG on Polymer & Ceramic Insulator in an Artificial Chamber'	Bahria University	Karachi	Electrical Engineering
NGIRI-2022-13271	'Autonomous Navigation and Object Tracking Robot'	Bahria University	Karachi	Electrical Engineering
NGIRI-2022-13358	'Nizam-e-ilahi (Islamic Social media)'	Bahria University	Karachi	Computer Science
NGIRI-2022-13379	'Eco-friendly refrigeration using thermometric'	Bahria University	Karachi	Electrical Power Engineering
NGIRI-2022-13382	'Smart Grass Cutting Machine'	Bahria University	Karachi	Electronics Engineering
NGIRI-2022-13543	'ENVISION EYE '	Bahria University	Karachi	Electrical Engineering
NGIRI-2022-13682	'THREE DIMENSIONAL HOLOGRAPHIC DISPLAY SYSTEM WITH GESTURE CONTROLLER'	Bahria University	Karachi	Electronics Engineering
NGIRI-2022-13853	'SELF STABILIZING SPOON'	Bahria University	Karachi	Electrical Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13897	'Smart Stick for Blind People'	Bahria University	Karachi	Computer Science
NGIRI-2022-13923	'SMART PROPERTY RECOMMENDATION APPLICATION'	Bahria University	Karachi	Software Engineering
NGIRI-2022-14413	Smart Irrigation System	Bahria University	Karachi	Software Engineering
NGIRI-2022-14629	'Blomming Garden'	Bahria University	Karachi	Software Engineering
NGIRI-2022-14656	'Master SCRUM through gaming'	Bahria University	Karachi	Software Engineering
NGIRI-2022-14666	'IoT based Smart Glasses for blind'	Bahria University	Karachi	Computer Science
NGIRI-2022-14885	'Multivendor POS System '	Bahria University	Karachi	Computer Science
NGIRI-2022-15127	'MedSolutions'	Bahria University	Karachi	Software Engineering
NGIRI-2022-15479	'Plant disease detection using AI'	Bahria University	Karachi	Computer Science
NGIRI-2022-16079	'Automated Greenhouse Monitoring System'	Bahria University	Karachi	Electrical Engineering
NGIRI-2022-11514	'Digital Health Avatar'	Bahria University	Lahore	Computer Science
NGIRI-2022-13941	'Draw To Code'	Bahria University	Lahore	Computer Science
NGIRI-2022-13965	'HOTDEALSPK'	Bahria University	Lahore	Computer Science
NGIRI-2022-13975	'Virtual avatar to try outfits on e-commerce website'	Bahria University	Lahore	Computer Science
NGIRI-2022-14035	'FitMii'	Bahria University	Lahore	Computer Science
NGIRI-2022-12141	'bomb disposal and mines detector robot'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer System Engineering
NGIRI-2022-12371	'BUETK ONLINE MARKEET PLACE'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer System Engineering
NGIRI-2022-12432	'MACHINE LEARNING BASE PESTICIDE SPRAY SYSTEM USING DRONE FOR MONITORING AND PREVENTION OF DISEASE IN CROPS'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Electrical Engineering
NGIRI-2022-12639	'Design of Portable Cooling Box for Preserving of vaccines and Insulin Injection'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Electrical Engineering
NGIRI-2022-13873	'Arduino based portable Ventilator '	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer Engineering
NGIRI-2022-14442	'Design of a Fuzzy logic Based Basic Diseases Diagnosis Expert System for Khuzdar'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer System Engineering
NGIRI-2022-15116	'Towards development of IoT based smart Parking system using raspberry pi'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer System Engineering
NGIRI-2022-15192	'IOT Based Air Pollution Monitoring System'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer Science
NGIRI-2022-16137	'Experimental study of solar water distillation system with thermosyphon heat pipe exchanger for arid areas of balochistan'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Mechanical Engineering
NGIRI-2022-16400	'Driver Drowsiness Detection System for Accident Prevention'	Balochistan University of Engineering and Technology, Khuzdar	Khuzdar	Computer System Engineering
NGIRI-2022-11126	'IOT based domestic water supply management system '	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical Engineering
NGIRI-2022-11166	'IoT Based Quality Enhancement In Learning Management System'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Telecom Engineering
NGIRI-2022-11172	'MRI analysis for volume estimation of the hippocampus using machine learning for early Alzheimer\'s disease diagnosis'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Software Engineering
NGIRI-2022-11199	'Control and monitoring system design for single phase AC generator'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical Engineering
NGIRI-2022-11492	'Path planning for mobile robots'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Engineering
NGIRI-2022-11531	'Human Following Robot'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Engineering
NGIRI-2022-11904	'Power Efficient Smart Lighting system'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11907	'AI BASED THUNDERCAM USING RASPBERRY PI AND IOT'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Engineering
NGIRI-2022-11988	'CENTRALIZED ANTICOLLISION TRAIN SYSTEM WITH PHIS PLATE ELIMINATION DISCERN & SIGNAL MONITORING'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Engineering
NGIRI-2022-12142	'Smart Atmospheric Water Generator for Drinking and Irrigation Purpose'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electronics Engineering
NGIRI-2022-12359	'IoV based road accident detection and vehicle to vehicle communication'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Telecom Engineering
NGIRI-2022-12683	'A Miniaturized Conformal UWB Antenna For UAV Application'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Telecom Engineering
NGIRI-2022-12793	'Hero In Disguise'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Science
NGIRI-2022-12843	'Localization of a snake robot'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electronics Engineering
NGIRI-2022-13135	'Workers Health and Safety Detection System at Oil and Gas Field'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Information Technology
NGIRI-2022-13259	'IoT Based Air Quality Index Monitoring System for Quetta City'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical Engineering
NGIRI-2022-13372	'industrial scientific and medical ISM band antenna for bio medical applications'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Telecom Engineering
NGIRI-2022-13597	'SINTHEA'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Software Engineering
NGIRI-2022-13961	'Deep learning Assited Smart Glasses For Object Detection at low light conditions '	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Science
NGIRI-2022-14056	'High Gain Beam Steerable Antenna for 5G Mobile Devices '	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Telecom Engineering
NGIRI-2022-14473	'Hardware implementation of a fuzzy logic-based control system for heliostats orientation'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical Engineering
NGIRI-2022-14580	'Analytical Modelling of Spectral Response of Crystalline Structure Using Machine Learning'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Computer Science
NGIRI-2022-14698	'Exploration of an Unknown Environment Using Deep Reinforcement Learning'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical
NGIRI-2022-14932	'Deep Reinforcement Learning Based Robot Navigation in a Map Less Environment'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electrical Engineering
NGIRI-2022-14956	'Heart Disease Prediction and monitoring System'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Software Engineering
NGIRI-2022-14957	'Finding Optimal Location for Healthcare units in Balochistan using GIS'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Software Engineering
NGIRI-2022-14992	'Worktern Freelance Website'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Software Engineering
NGIRI-2022-15055	'Computer Vision Based Driver's drowsiness, Age and Seat belt Recognition '	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electronics Engineering
NGIRI-2022-15228	'Health Monitoring System '	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Electronics Engineering
NGIRI-2022-15828	'Synthesis and characterization of Aluminium oxide Nano particles doped polymer dispersed liquid crystal films'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Science & Technology
NGIRI-2022-15929	'Analysis of Solar Flux distribution in linear concentrators'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Science & Technology

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NGIRI-2022-16171	'Study of synthesis of Zinc oxide Nano particles doped epoxy based PDLC'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Science & Technology
NGIRI-2022-16242	'INVESTIGATION OF EMF-RF (Wi-Fi) IMPACTS ON EMPLOYEE'S HEALTH IN HIGHER EDUCATION OF INSTITUTE.'	Balochistan University of Information Technology, Engineering & Management Sciences	Quetta	Science & Technology
NGIRI-2022-12475	'Design and Fabrication of 3-Axis CNC Router '	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Mechanical Engineering
NGIRI-2022-12584	'Use of Fresnel lens in solar desalination to achieve enhanced distillate output'	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Mechanical Engineering
NGIRI-2022-12990	'IoT Based smart Health Monitoring system and Automation Using Augmented Reality'	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Electronics Engineering
NGIRI-2022-13176	'Dual Syringe Smart Infusion Pump With Real Time Health Monitoring'	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Electronics Engineering
NGIRI-2022-13201	'Arduino Based Hybrid Energized automatic Firefighting Rescue Robot(QRob)'	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Electrical Engineering
NGIRI-2022-16127	'Electric Car Based On Solar Panel'	Benazir Bhutto Shaheed University of Technology & Skill Development	Main	Electrical Engineering
NGIRI-2022-10908	'Design and development of Solar Thermal Air Heater'	Capital University of Science and Technology	Main	Mechanical Engineering
NGIRI-2022-11114	'Solar Water Desalination System'	Capital University of Science and Technology	Main	Mechanical Engineering
NGIRI-2022-11669	'World Aquifer Forecasting Engine and Research '	Capital University of Science and Technology	Main	Computer Science
NGIRI-2022-12221	'Design And Prototyping of Passive Exoskeleton For Lower Limb To Assist Walking '	Capital University of Science and Technology	Main	Mechanical Engineering
NGIRI-2022-12225	'Design and Fabrication of Automatic Wheel-chair Convertible into Bed , Sitting and Standing mode'	Capital University of Science and Technology	Main	Mechanical Engineering
NGIRI-2022-12228	'Design and development of solar dehydrator for fruits and vegetables'	Capital University of Science and Technology	Main	Mechanical Engineering
NGIRI-2022-12241	'Multiple Object Detection and Lane Following for Autonomous Vehicle'	Capital University of Science and Technology	Main	Electrical Engineering
NGIRI-2022-12636	'AI Based Sign Language Interpreter For Disabled Persons'	Capital University of Science and Technology	Main	Electrical Engineering
NGIRI-2022-12697	'HazelBot Smart Medical Assistant'	Capital University of Science and Technology	Main	Electrical Engineering
NGIRI-2022-12731	'FEASIBILITY OF RENEWABLE ENERGY GENERATION USING MACHINE LEARNING BASED PREDICTION MODEL OF WIND VERSUS SOLAR POWER GENERATION'	Capital University of Science and Technology	Main	Electrical/Electronics Engineering
NGIRI-2022-13074	'IoT Based Home Power Monitoring and Control'	Capital University of Science and Technology	Main	Electrical Engineering
NGIRI-2022-13546	'Identification of Damage Assessment Tweets using Textual Features'	Capital University of Science and Technology	Main	Software Engineering
NGIRI-2022-15041	'IoT Based Smart Helmet for Bike Riders '	Capital University of Science and Technology	Main	Computer Science
NGIRI-2022-11427	'E-bike Development & Implementation of smart eco-friendly System'	CECOS University of IT & Emerging Sciences	Peshawar	Electrical Engineering
NGIRI-2022-13112	'Association study of promoter region SNP rs2275913 of IL-17A in brain cancer in Pakistani Population'	CECOS University of IT & Emerging Sciences	Peshawar	Biomedical Engineering
NGIRI-2022-14081	'Design and Fabrication of Low cost air purifier'	CECOS University of IT & Emerging Sciences	Peshawar	Mechanical Engineering
NGIRI-2022-14497	'An efficient DICOM image based brain lesion segmentation model '	CECOS University of IT & Emerging Sciences	Peshawar	Computer Science
NGIRI-2022-14658	'food donation app'	CECOS University of IT & Emerging Sciences	Peshawar	Computer Science
NGIRI-2022-14751	'Design and fabrication of indigenous solid plastic waste recycling system'	CECOS University of IT & Emerging Sciences	Peshawar	Mechanical Engineering
NGIRI-2022-11512	'Smart Glasses for Visually Impaired Persons'	City University of Science & Information Technology	Peshawar	Computer Science
NGIRI-2022-12061	'Design and implementation of virtual reality for video calling'	City University of Science & Information Technology	Peshawar	Electrical Power Engineering
NGIRI-2022-12216	'Exploring NeuroSky Wave Brain Wave Sensor Application For Wheelchair. '	City University of Science & Information Technology	Peshawar	Electrical Power Engineering
NGIRI-2022-12663	'SMART POWER MONITORING AND THEFT DETECTION SYSTEM'	City University of Science & Information Technology	Peshawar	Electrical Power Engineering
NGIRI-2022-10922	'Artificial Intelligence Based Disease Detection In Medical Images'	COMSATS University of Information Technology	Abbottabad	Computer Engineering
NGIRI-2022-11094	'IoT BASED MPPT AND SUN TRACKING PHOTOVOLTIC SYSTEM'	COMSATS University of Information Technology	Abbottabad	Electrical Power Engineering
NGIRI-2022-11201	'IoT Based AmazonGo Smart Cart System Using RFID Technology'	COMSATS University of Information Technology	Abbottabad	Electrical Engineering

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NGIRI-2022-12025	'Improved Intelligent Surveillance System'	COMSATS University of Information Technology	Abbottabad	Electrical/Electronics Engineering
NGIRI-2022-12123	'Automatic Paper Marking System'	COMSATS University of Information Technology	Abbottabad	Electrical/Electronics Engineering
NGIRI-2022-12206	'Restaurant Recommendation System using Aspect based Sentiment Analysis'	COMSATS University of Information Technology	Abbottabad	Computer Science
NGIRI-2022-12218	'Smart glasses with face recognition and obstacle detection'	COMSATS University of Information Technology	Abbottabad	Electrical/Electronics Engineering
NGIRI-2022-12245	'Adaptive Traffic Light Timer Control (ATLTC)'	COMSATS University of Information Technology	Abbottabad	Electrical/Electronics Engineering
NGIRI-2022-12268	'Ocean swell energy conversion apparatus'	COMSATS University of Information Technology	Abbottabad	Electrical Power Engineering
NGIRI-2022-13839	'Rooftop Wind Energy Conversion System'	COMSATS University of Information Technology	Abbottabad	Electrical Power Engineering
NGIRI-2022-13842	'Development of Dual Rotor Flux Switching Generator'	COMSATS University of Information Technology	Abbottabad	Electrical Power Engineering
NGIRI-2022-15502	'Wireless Electric Vehicle Charging Station'	COMSATS University of Information Technology	Abbottabad	Electrical Power Engineering
NGIRI-2022-16199	A deep learning-based approach for digital beamforming of antenna arrays	COMSATS University of Information Technology	Abbottabad	Electrical/Electronics Engineering
NGIRI-2022-11120	'Smart Helmet For The Safety Of Bike Riders'	COMSATS University of Information Technology	Attock	Electrical Engineering
NGIRI-2022-11139	'BlockChat: Blockchain-enabled fast and secure communication system for Industry 4.0'	COMSATS University of Information Technology	Attock	Computer Science
NGIRI-2022-11227	'Stress Detection App using Blockchain in IoT'	COMSATS University of Information Technology	Attock	Computer Science
NGIRI-2022-11301	'Recommendation System using Sentimental Analysis in Tourism'	COMSATS University of Information Technology	Attock	Computer Science
NGIRI-2022-11635	'Obstacle Avoidance of Multi Agent System using Swarm Autobots'	COMSATS University of Information Technology	Attock	Computer Engineering
NGIRI-2022-12553	'Motor driving and control system for electric vehicle'	COMSATS University of Information Technology	Attock	Electrical Engineering
NGIRI-2022-13331	'Design of Transformer Less Inverter for Domestic Universal Power Supply System'	COMSATS University of Information Technology	Attock	Electrical Engineering
NGIRI-2022-13343	'Deep Learning Based Road Cracks Detection using UAV Images'	COMSATS University of Information Technology	Attock	Computer Engineering
NGIRI-2022-13393	'Image-based Real-time Passenger Overloaded Vehicles Detection using Deep Learning'	COMSATS University of Information Technology	Attock	Computer Engineering
NGIRI-2022-13444	'Computer Numerical Control (CNC) based Two-Dimensional Cutter'	COMSATS University of Information Technology	Attock	Electrical Engineering
NGIRI-2022-14697	'Designing of regenerative braking system for electric vehicle'	COMSATS University of Information Technology	Attock	Electrical Engineering
NGIRI-2022-15461	'Smart Bio Floc Monitoring'	COMSATS University of Information Technology	Attock	Computer Science
NGIRI-2022-10888	'An IOT based Reverse Vending Machine for Beverage Container Recycling'	COMSATS University of Information Technology	Lahore	Electrical Engineering
NGIRI-2022-11194	'Intelligent Control of Robotic Arm using Brain Computer Interface and Neural Networks'	COMSATS University of Information Technology	Lahore	Computer Engineering
NGIRI-2022-11377	'Deployment of Intelligent and Secure Cattle Health Monitoring System'	COMSATS University of Information Technology	Lahore	Computer Engineering
NGIRI-2022-11551	'Rapid Verification of Covid Personnel'	COMSATS University of Information Technology	Lahore	Computer Engineering
NGIRI-2022-11922	'Design and Implementation of a low cost pizza vending machine'	COMSATS University of Information Technology	Lahore	Electrical Power Engineering
NGIRI-2022-12208	'IoT Based Smart Monitoring and Optimization of Individual Solar Panels Using Wireless Sensor Network'	COMSATS University of Information Technology	Lahore	Computer Engineering
NGIRI-2022-12308	'Implementation of an intelligent parking system'	COMSATS University of Information Technology	Lahore	Computer Engineering
NGIRI-2022-12522	'Front Wheel Electric Powered Hybrid Motor Bike'	COMSATS University of Information Technology	Lahore	Electrical Power Engineering
NGIRI-2022-12721	'Temperature profiling of an electric grid using unmanned aerial vehicle'	COMSATS University of Information Technology	Lahore	Electrical Engineering
NGIRI-2022-15107	'IoT Based Smart Vacuum Cleaner'	COMSATS University of Information Technology	Lahore	Electrical Engineering
NGIRI-2022-15130	'A Ubiquitous and Portable Healthcare Monitoring System'	COMSATS University of Information Technology	Lahore	Computer Science
NGIRI-2022-15137	'Multi-data and Multi-model based Smart Wheelchair for Physically challenged Patients'	COMSATS University of Information Technology	Lahore	Computer Science
NGIRI-2022-15494	'Pure Sine Wave 3-phase on Grid Inverter Designing and Implementation'	COMSATS University of Information Technology	Lahore	Electrical Engineering
NGIRI-2022-16121	'An IOT based Trash Collecting Cleaning and Segregation Robot'	COMSATS University of Information Technology	Lahore	Electrical Engineering

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NGIRI-2022-10910	'Design and Development of Coordinating Autonomous Robots'	COMSATS University of Information Technology	Main	Computer Engineering
NGIRI-2022-12588	'IoT based smart farm'	COMSATS University of Information Technology	Main	Software Engineering
NGIRI-2022-13164	'Hand Exoskeleton for Assistance in Grasping Using Force Myography'	COMSATS University of Information Technology	Main	Electronics
NGIRI-2022-14098	'Development of a system for monitoring the real-time performance of vehicles with fault tolerance.'	COMSATS University of Information Technology	Main	Electronics
NGIRI-2022-14410	'Experimental Study of Modulation Dynamics of Laser and Photodetector to Realize Visible Light Communication.'	COMSATS University of Information Technology	Main	Electrical
NGIRI-2022-14916	'Multi-robot coordination for handling objects in a moving conveyer belt: Trajectory planning and determining end-effector'	COMSATS University of Information Technology	Main	Electrical Engineering
NGIRI-2022-15267	'Development of Pump-Probe Photorefectance Setup '	COMSATS University of Information Technology	Main	Electronics
NGIRI-2022-12419	'Eye Gesture Controlled Wheelchair using deep learning'	COMSATS University of Information Technology	Sahiwal	Electrical Engineering
NGIRI-2022-12910	'The Holy Quran Listener for Surah Rehman '	COMSATS University of Information Technology	Sahiwal	Computer Science
NGIRI-2022-12918	'Blockchain Based Taxation System'	COMSATS University of Information Technology	Sahiwal	Computer Science
NGIRI-2022-12968	'Blockchain based Music NFT Marketplace'	COMSATS University of Information Technology	Sahiwal	Computer Science
NGIRI-2022-12988	'AI Based Urdu Chatbot Urdu Spot'	COMSATS University of Information Technology	Sahiwal	Computer Science
NGIRI-2022-13016	'Design of microwave bandpass filter using microstrip technology'	COMSATS University of Information Technology	Sahiwal	Electrical Engineering
NGIRI-2022-13018	'GRAPHOLOGY BASED MENTAL DISORDER AND PERSONALITY PREDICTION'	COMSATS University of Information Technology	Sahiwal	Computer Science
NGIRI-2022-13136	'Hybridization of renewable energy resources using digital control technique'	COMSATS University of Information Technology	Sahiwal	Electrical Engineering
NGIRI-2022-13872	'Design of metamaterial based broadband radar absorbers for stealth applications'	COMSATS University of Information Technology	Sahiwal	Electrical Engineering
NGIRI-2022-11108	'AI Based Smart Alert System for Drowsy Driver Detection '	COMSATS University of Information Technology	Wah	Electrical Engineering
NGIRI-2022-11257	'SMART WHEELCHAIR RAILING'	COMSATS University of Information Technology	Wah	Electrical Engineering
NGIRI-2022-12200	'Rice Inspection System'	COMSATS University of Information Technology	Wah	Computer Science
NGIRI-2022-12379	'Electric Field Meter for Electromagnetic Applications'	COMSATS University of Information Technology	Wah	Electrical Engineering
NGIRI-2022-12390	'emo-mask: Emotion controlled mask for kids'	COMSATS University of Information Technology	Wah	Computer Science
NGIRI-2022-12481	'FPGA Implementation of Crypto System '	COMSATS University of Information Technology	Wah	Electrical Engineering
NGIRI-2022-12531	'Bionic Arm'	COMSATS University of Information Technology	Wah	Computer Science
NGIRI-2022-12585	'Water Metering System'	COMSATS University of Information Technology	Wah	Electrical/Electronics Engineering
NGIRI-2022-12761	'Drivoo AI Driving App'	COMSATS University of Information Technology	Wah	Computer Science & IT
NGIRI-2022-12846	'Maternal And Infant Health Care Predictive system'	COMSATS University of Information Technology	Wah	Computer Science
NGIRI-2022-13318	'Design And Fabrication Of Injection Molding Machine'	COMSATS University of Information Technology	Wah	Mechanical Engineering
NGIRI-2022-15278	'Autonomous Drone Delivery System'	COMSATS University of Information Technology	Wah	Computer Science
NGIRI-2022-15923	'Automated material handling crane/hand truck system.'	COMSATS University of Information Technology	Wah	Software Engineering
NGIRI-2022-11365	'IoT Based Liquid Level Monitoring and Control System '	Dawood University of Engineering and Technology	Main	Telecom Engineering
NGIRI-2022-11581	'AI IoT based RealTime Air Quality Index Reporting Gadget with Hazardous Gases Advisory System'	Dawood University of Engineering and Technology	Main	Computer System Engineering
NGIRI-2022-11720	'computer vision based object sorter'	Dawood University of Engineering and Technology	Main	Electronics Engineering
NGIRI-2022-11783	'Smart Visual System for Visually Impaired People'	Dawood University of Engineering and Technology	Main	Electronics Engineering
NGIRI-2022-12118	'Skin Cancer Predictor Using Python And Deep Learning'	Dawood University of Engineering and Technology	Main	Computer System Engineering
NGIRI-2022-13335	'Implementation Of Underwater Wireless Sensor Network Using Acoustic Communication'	Dawood University of Engineering and Technology	Main	Telecom Engineering
NGIRI-2022-13437	'Automated Industrial Inspection solution for plastic bottle defects '	Dawood University of Engineering and Technology	Main	Computer System Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13474	'Android application for sign language recognition'	Dawood University of Engineering and Technology	Main	Computer System Engineering
NGIRI-2022-14362	'Smart Shopping Cart'	Dawood University of Engineering and Technology	Main	Computer System Engineering
NGIRI-2022-14557	'Design IoT based WSN for monitoring water quality'	Dawood University of Engineering and Technology	Main	Electronics Engineering
NGIRI-2022-14823	'IoT based Solar Smart-Flower '	Dawood University of Engineering and Technology	Main	Electronics
NGIRI-2022-14829	'Predictive Maintenance and Fault Diagnosis of Induction Motor'	Dawood University of Engineering and Technology	Main	Electronics Engineering
NGIRI-2022-14912	'Electronic trainer kit for EDC.DLD AND ECD labs '	Dawood University of Engineering and Technology	Main	Electronics Engineering
NGIRI-2022-15066	'Real Time Drowsiness Detection Algorithm for Driver's Safety'	Dawood University of Engineering and Technology	Main	Telecom Engineering
NGIRI-2022-15631	'Blockchain Based Voting System'	Dawood University of Engineering and Technology	Main	Telecom Engineering
NGIRI-2022-14162	'Design and simulation of an in wheel permanent magnet synchronous motor for an electric vehicle on finite element modeling software tool Ansys Maxwell'	DHA Suffa University	Main	Electrical Engineering
NGIRI-2022-14176	'TransAds'	DHA Suffa University	Main	Computer Science
NGIRI-2022-14813	'Design and Fabrication of a Torque meter to measure shaft torque in Newton Meter'	DHA Suffa University	Main	Electrical Engineering
NGIRI-2022-14889	'DESIGN AND FABRICATION OF UAV LAUNCHER'	DHA Suffa University	Main	Mechanical Engineering
NGIRI-2022-14897	'Development of an intelligent design methodology for composite materials for various applications'	DHA Suffa University	Main	Mechanical Engineering
NGIRI-2022-14899	'Design and Development of Lab scale system for condition monitoring of rotating components for machines'	DHA Suffa University	Main	Mechanical Engineering
NGIRI-2022-14909	'Design and Fabrication of Six Degree of Freedom Anthropomorphic Robotic Arm'	DHA Suffa University	Main	Mechanical Engineering
NGIRI-2022-14926	'Design and Analysis of Photovoltaic Powered Reverse Osmosis Desalination System'	DHA Suffa University	Main	Mechanical Engineering
NGIRI-2022-15245	'Power System Stability using IBR'	DHA Suffa University	Main	Electrical Engineering
NGIRI-2022-15246	'design voltage ride through capability using renewables'	DHA Suffa University	Main	Electrical Engineering
NGIRI-2022-14622	'Smart Lab'	FATA University	Main	Computer Science
NGIRI-2022-11368	'AI based Android Application for Diet Assistance and Carb Counting'	Fatima Jinnah Women University	Main	Computer Science
NGIRI-2022-11380	'IoT Based Hydroponic System for Better Crop Production'	Fatima Jinnah Women University	Main	Computer Science
NGIRI-2022-11386	'Pakistan sign language conversion to text using Artificial intelligence '	Fatima Jinnah Women University	Main	Computer Science
NGIRI-2022-11395	'A prototype for accident detection and management system using IOT'	Fatima Jinnah Women University	Main	Computer Science
NGIRI-2022-11396	'INTELLIGENT IOT BASED ASSISTIVE SYSTEM FOR SPEECH DELAYED CHILDREN'	Fatima Jinnah Women University	Main	Computer Science
NGIRI-2022-14260	'Object Classification System in Low Visibility Driving Conditions '	Federal Urdu University of Arts, Science and Technology	Islamabad	Electrical Engineering
NGIRI-2022-15557	'Automatic Car Climate Control System with Carbon Dioxide Monitoring'	Federal Urdu University of Arts, Science and Technology	Islamabad	Computer Science
NGIRI-2022-13000	'Treatment of Phobia Through Virtual Reality'	Federal Urdu University of Arts, Science and Technology	Main	Computer Science
NGIRI-2022-16365	'Real time license plate detection for non helmeted motorcyclist using CNN'	Federal Urdu University of Arts, Science and Technology	Main	Computer Science
NGIRI-2022-11572	'IoT based Smart Drink Dispenser'	Foundation University	Islamabad	Software Engineering
NGIRI-2022-13378	'Solar power system efficiency improvement using ANN and hybrid boost converter based MPPT algrathium'	Foundation University	Islamabad	Electrical Engineering
NGIRI-2022-13394	'Alhazen Image Forensics System'	Foundation University	Islamabad	Software Engineering
NGIRI-2022-13616	'CAR HUD An Electro optics project based on Augmented Reality'	Foundation University	Islamabad	Electrical Engineering
NGIRI-2022-14857	'Contrast Enhancement for Low Contrast Digital Images'	Foundation University	Islamabad	Software Engineering
NGIRI-2022-15489	'Smart Home Power Management System'	Foundation University	Islamabad	Computer Science
NGIRI-2022-15580	'Smart Driver Behavior Monitoring System'	Foundation University	Islamabad	Software Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-15626	'Designing and Implementation of Brushless DC Motor Controller for Electric Bicycle'	Foundation University	Islamabad	Electrical Engineering
NGIRI-2022-15681	'Lithium ion battery and super capacitor fast charging hybrid system for electrical vehicle'	Foundation University	Islamabad	Electrical Engineering
NGIRI-2022-13439	'AI Diet Consultant Android Application'	Ghazi University	City Campus	Computer Science & IT
NGIRI-2022-13639	'Arduino based third eye for Blind people'	Ghazi University	City Campus	Computer Science & IT
NGIRI-2022-13640	'Arduino based smart robot car controlled with Android APP'	Ghazi University	City Campus	Computer Science & IT
NGIRI-2022-13683	'Credit-card-fraud detection website'	Ghazi University	City Campus	Computer Science & IT
NGIRI-2022-15839	'Sun tracking solar panel using Arduino'	Ghazi University	City Campus	Computer Science & IT
NGIRI-2022-11940	'Solar Based High Voltage Water Purification System '	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Electrical Engineering
NGIRI-2022-13047	'Self Driving Car'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Electrical/Electronics Engineering
NGIRI-2022-13461	'Poultry Farm Monitoring and Automation System'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Electronics Engineering
NGIRI-2022-13596	'Iot based irrigation system'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Electrical/Electronics Engineering
NGIRI-2022-13625	'3D Printer with multi material Pneumatic extruder'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Electronics
NGIRI-2022-14539	'Sensor Assisted Electric Vehicle with Individual Wheel Rotation in Two Dimensions'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Mechanical Engineering
NGIRI-2022-15343	'Design and development of variable pressure control for common rail diesel fuel injection system (CRDI) using an EFI.'	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology	Swabi	Mechanical Engineering
NGIRI-2022-11699	'AirTouch'	GIFT University	Gujranwala	Computer Science
NGIRI-2022-11974	'Let's Grow together'	GIFT University	Gujranwala	Computer Science
NGIRI-2022-12043	'Learning and shooting game'	GIFT University	Gujranwala	Software Engineering
NGIRI-2022-12234	'Intelligent Green House'	GIFT University	Gujranwala	Computer Science
NGIRI-2022-12236	'VR Game'	GIFT University	Gujranwala	Software Engineering
NGIRI-2022-12242	'On Road Vehicle Breakdown Help Assistance '	GIFT University	Gujranwala	Computer Science
NGIRI-2022-12530	'Epiczone'	GIFT University	Gujranwala	Software Engineering
NGIRI-2022-12743	'NFT Club'	GIFT University	Gujranwala	Computer Science
NGIRI-2022-13447	'Design and Development of Battery Electric Bike'	GIFT University	Gujranwala	Electrical Engineering
NGIRI-2022-11701	'Artificial intelligence based Drowsy Driver Detection'	Gomal University	Main	Electrical Engineering
NGIRI-2022-15063	'Real Time Driver Alert Mechanism'	Government College Women University	Sialkot	Computer Science
NGIRI-2022-11594	'IOT Integrated Fire Vigilant Responder and Reactor Assistant'	Grafton College Islamabad (Affiliated Campus of NUML)	Islamabad	Electrical Engineering
NGIRI-2022-13288	'Blockchain-Based Verification of Academic Credentials'	Hamdard University	Islamabad	Computer Science
NGIRI-2022-10897	'ROBOTIC SOLDERING ARM'	Hamdard University	Karachi	Electrical
NGIRI-2022-10924	'High-Precision Simulated Image-Guided Cardiac Interventions'	Hamdard University	Karachi	Biomedical Engineering
NGIRI-2022-12065	'HYBRO BIKE WITH DIGITAL FEATURES'	Hamdard University	Karachi	Electrical Engineering
NGIRI-2022-12421	'Design Fabrication and Analysis of Air Engine Test Bed'	Hamdard University	Karachi	Mechanical Engineering
NGIRI-2022-13277	'Solarcity sunlight in the dark room'	Hamdard University	Karachi	Electrical Engineering
NGIRI-2022-13330	'Effectiveness of TENS and TDCS in cognitive performance and pain reduction'	Hamdard University	Karachi	Biomedical Engineering
NGIRI-2022-14494	'Design and Development of Low Cost IoT Harvesting Robo-Vec'	Hamdard University	Karachi	Electrical Engineering
NGIRI-2022-14604	'Eye Controlled Electric Wheelchair'	Hamdard University	Karachi	Computer Engineering
NGIRI-2022-14859	'Automatic Solar Energy Green House Controlling and Monitoring System'	Hamdard University	Karachi	Electrical Power Engineering



# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-16104	'Intelligent autonomous vehical tracking on MotorWay'	Hamdard University	Karachi	Computer Science
NGIRI-2022-16490	'Unauthorized Person Detector using UAV-Patrolling Drone.'	Hamdard University	Karachi	Computing and Technology
NGIRI-2022-11128	'Laser Detection System for HIT Tanks'	HITEC University	Main	Computer Engineering
NGIRI-2022-11532	'Tribological Performance of Green Lubricants Under EMF Applied to Electric Vehicles Mobility'	HITEC University	Main	Mechanical Engineering
NGIRI-2022-12154	'Energy management system for hybrid solar and wind based micro smart grid'	HITEC University	Main	Electrical Engineering
NGIRI-2022-12402	'Fruit Classification through image processing'	HITEC University	Main	Electrical Power Engineering
NGIRI-2022-13138	'Design and fabrication of Single Point incremental sheet forming machine'	HITEC University	Main	Mechanical Engineering
NGIRI-2022-13140	'Design and Development of 4kJ Electromagnetic Forming Machine '	HITEC University	Main	Mechanical Engineering
NGIRI-2022-13212	'IOT BASED SMART IRRIGATION SYSTEM '	HITEC University	Main	Electrical Power Engineering
NGIRI-2022-13416	'Robust And Cost Efficient Ventilator For Covid Patients '	HITEC University	Main	Electrical/Electronics Engineering
NGIRI-2022-13434	'Early Rise Disease Detection In Crops Using Machine Learning with UAV'	HITEC University	Main	Electrical Engineering
NGIRI-2022-13440	'Speed control of single phase induction motor using PLC'	HITEC University	Main	Electrical Engineering
NGIRI-2022-13491	'Optimal Design Of Passive Power Filter Using Heuristic Optimization Algorithm'	HITEC University	Main	Electrical Engineering
NGIRI-2022-13507	'Detection and Monitoring of Forest Fire using Patrolling Drone'	HITEC University	Main	Electrical Engineering
NGIRI-2022-13525	'Voice Controlled Home automation system'	HITEC University	Main	Computer Science
NGIRI-2022-13577	'Real-time Progress Monitoring System for 3D Printers'	HITEC University	Main	Computer Science
NGIRI-2022-13602	'Truck On Go'	HITEC University	Main	Computer Science
NGIRI-2022-13694	'IOT based automatic notification system using an app'	HITEC University	Main	Computer Engineering
NGIRI-2022-13860	'Apna Ghar Construction '	HITEC University	Main	Computer System
NGIRI-2022-14038	'Automatic Seed Sowing Robot'	HITEC University	Main	Mechanical Engineering
NGIRI-2022-14405	'Design and Fabrication of VTOL Drone'	HITEC University	Main	Mechanical Engineering
NGIRI-2022-14675	'library management system'	HITEC University	Main	Computer Science
NGIRI-2022-14686	'Transport Management System'	HITEC University	Main	Computer System
NGIRI-2022-14806	'Vehicle Tracking System'	HITEC University	Main	Computer Engineering
NGIRI-2022-13805	'MAIL SORTING MACHINE BASED ON POSTAL CODE DETECTION'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer Science
NGIRI-2022-13806	'2D â€” Pen Plotter For AutoCad Graphics Printer'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer System
NGIRI-2022-14014	'Ping Pong Robot'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer Science
NGIRI-2022-14024	'Real Time-based Melanoma Detection Using Image Processing and Machine Learning '	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer Science
NGIRI-2022-14048	'Geysers Thermostat Monitoring'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer Science
NGIRI-2022-14187	'Automated Guided Vehicle for Industry 4.0'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer System
NGIRI-2022-14194	'Drone Based Surveillance Using Real Time Image Processing For Detection Of Illegal Activity'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Computer Science
NGIRI-2022-14521	'VIRTUAL GAMING CONTROLLER AND MOTION DETECTOR GADGET'	ILMA University, formerly Institute of Business & Technology (IBT)	Main	Software Engineering
NGIRI-2022-10899	Monitoring & Controlling of Smart Agriculture System using IoT with AI-based Disease Detection & Production Forecasting	Indus University	Karachi	Electrical Power Engineering
NGIRI-2022-10966	'Smart Vehicle Ventilation System with IoT based Monitoring of Vehicle Environment and Security'	Indus University	Karachi	Electrical Power Engineering
NGIRI-2022-10981	'Landslide Early Warning System With Wireless Sensor Network (WSN) By Soil Movement and Rainfall Analysis'	Indus University	Karachi	Electronics
NGIRI-2022-10983	'IOT Based Greenhouse Environment Monitoring and Controlling System using Raspberry Pi'	Indus University	Karachi	Electronics

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-10984	'Precision Agriculture Robot for Seed Sowing to Maximize the Yield. '	Indus University	Karachi	Electronics
NGIRI-2022-10995	'Ai Based Thievery Exposure Using IoT'	Indus University	Karachi	Computer Science
NGIRI-2022-11012	'VR CAR TRAFFIC INSTRUCTOR'	Indus University	Karachi	Computer Science & IT
NGIRI-2022-11026	'Virtual Assistant In Home Automation'	Indus University	Karachi	Software Engineering
NGIRI-2022-11040	'Automated Solar based Tracking System'	Indus University	Karachi	Software Engineering
NGIRI-2022-11041	'DeepFake in Medical Science'	Indus University	Karachi	Computing and Technology
NGIRI-2022-11056	'DUAL MOTORS CONTROLLED CONVEYOR BELT SYSTEM FOR HIGHLY SENSITIVE CHEMICAL/PHARMACEUTICAL INDUSTRY'	Indus University	Karachi	Electrical Engineering
NGIRI-2022-11083	'Smart Blind Gloves'	Indus University	Karachi	Computer Engineering
NGIRI-2022-11085	'Virtual Tuberculosis Detector'	Indus University	Karachi	Computer Engineering
NGIRI-2022-11086	'Virtual Melanoma Detection'	Indus University	Karachi	Computer Engineering
NGIRI-2022-11190	Design of Smart Microgrid Prototype using SCADA And PLC with IoT Based Monitoring	Indus University	Karachi	Engineering and Sciences
NGIRI-2022-11203	'Portable Lithium ion cell capacity Grading Machine'	Indus University	Karachi	Electrical Engineering
NGIRI-2022-11836	'Intelligent Flood Sensing and Alerting system for rural area using Wireless Sensor Network'	Indus University	Karachi	Electrical Engineering
NGIRI-2022-12823	'AI based remote control load lifter with using IOT'	Indus University	Karachi	Science & Technology
NGIRI-2022-12935	'Advance Bio-floc System with Cloud Based Mobile Application'	Indus University	Karachi	Software Engineering
NGIRI-2022-13260	'Industrial PLC trainer for AC servo motor related application '	Indus University	Karachi	Science & Technology
NGIRI-2022-14253	'Smart Energy Harvesting Eco-Friendly Street Light with IOT Based Surveillance'	Indus University	Karachi	Electrical Engineering
NGIRI-2022-14272	Smart IoT based Logical Trainer For Electrical Distribution System	Indus University	Karachi	Electrical Engineering
NGIRI-2022-14370	'IOT based robot for monitoring and communication for coal miners '	Indus University	Karachi	Electrical/Electronics Engineering
NGIRI-2022-14415	'IOT Based Smart Net Energy Meter with Higher Unit Slab Alert'	Indus University	Karachi	Science & Technology
NGIRI-2022-14417	'Automatic Vertical Form Fill and Seal (VFFS) Powder Packaging Machine For Pharmaceutical Industry'	Indus University	Karachi	Electronics
NGIRI-2022-14603	IOT Based Ultra Fast Charging and Monitoring System for Electric Vehicle	Indus University	Karachi	Science & Technology
NGIRI-2022-14753	'Design and Implementation of Smart Wireless Fire Tender Based on IOT Technology'	Indus University	Karachi	Electronics
NGIRI-2022-14989	'ARDUINO CONTROLLED ROBOTIC ARM'	Indus University	Karachi	Science & Technology
NGIRI-2022-12054	'IOT BASED SMART HELMET FOR UNSAFE EVENT DETECTION FOR MINING INDUSTRY'	Information Technology University	Lahore	Electrical Engineering
NGIRI-2022-12232	'Smart Cane for Visually Impaired'	Information Technology University	Lahore	Electrical Engineering
NGIRI-2022-15077	'Intelligent Shopping Trolley using Auto Billing System'	Information Technology University	Lahore	Electrical Engineering
NGIRI-2022-15147	'Smart and Non-Intrusive Power Infrastructure Monitoring'	Information Technology University	Lahore	Electrical Engineering
NGIRI-2022-15265	'Speak Through Eye Movements Glasses'	Information Technology University	Lahore	Electrical Engineering
NGIRI-2022-11142	'Humidity and temperature monitoring and controlling system'	Institute of Business Management	Main	Computer Science
NGIRI-2022-12497	'IoT based Smart Management of Poultry Farm'	Institute of Business Management	Main	Electrical/Electronics Engineering
NGIRI-2022-12716	'Smart Waste Water Treatment Plant System '	Institute of Business Management	Main	Electrical Engineering
NGIRI-2022-12901	'IoT Based Water System Management'	Institute of Business Management	Main	Electrical Engineering
NGIRI-2022-13155	'RFID Parking System'	Institute of Business Management	Main	Computer Science
NGIRI-2022-14380	'Image processing size verification parcel sorting conveyor'	Institute of Business Management	Main	Electrical/Electronics Engineering
NGIRI-2022-14316	SMART PORTABLE ECG MACHINE	Institute of Industrial Electronics Engineering	Main	Industrial Electronics

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-14411	Artificial Intelligence based Autonomous Aerial Vehicle for Security Surveillance	Institute of Industrial Electronics Engineering	Main	Industrial Electronics
NGIRI-2022-15043	Real time Manipulation of Multiple Robotic Arms with hand Gestures using Kinect Sensor	Institute of Industrial Electronics Engineering	Main	Industrial Electronics
NGIRI-2022-16330	Computer Vision Based Real Time Detection of 2D Flat Surface Area	Institute of Industrial Electronics Engineering	Main	Industrial Electronics
NGIRI-2022-11024	'IOT based Luggage Weight and Fall Monitoring with GSM and Android App'	Institute of Management Sciences	Peshawar	Computer System
NGIRI-2022-11434	'Autonomous and Selective Irrigation System with Recommendation System and Android Application'	Institute of Management Sciences	Peshawar	Computer Science
NGIRI-2022-14514	'Monitoring of Ferranti Effect and Power Factor Improvement in a Power System'	Institute of Southern Punjab	Main	Electrical Engineering
NGIRI-2022-14950	'Smart Monitoring and Energy Management of Hybrid Power Supply'	Institute of Southern Punjab	Main	Electrical Engineering
NGIRI-2022-11112	'Design and development of Three DOF Hover Stationary Quadrotor for Flight Controls'	Institute of Space Technology	Islamabad	Avionics/Aeronautical Engineering
NGIRI-2022-11116	'Design and Development of Lab experimental model of 3 Degrees of freedom moving quadrotor for flight controls.'	Institute of Space Technology	Islamabad	Avionics/Aeronautical Engineering
NGIRI-2022-11312	'Design and Development of Gas Turbine from Automobile Turbocharger'	Institute of Space Technology	Islamabad	Avionics/Aeronautical Engineering
NGIRI-2022-11926	'Solar Powered UAV for Surveillance With Long Endurance'	Institute of Space Technology	Islamabad	Mechanical Engineering
NGIRI-2022-12662	'Bicycle Generator'	Institute of Space Technology	Islamabad	Electrical Engineering
NGIRI-2022-12690	'Power Electrical Controller for Wind Turbine'	Institute of Space Technology	Islamabad	Electrical Engineering
NGIRI-2022-12813	'Speech Signal Processing Implementation for Hearing Impairment Based on FPGA'	Institute of Space Technology	Islamabad	Electrical Engineering
NGIRI-2022-13297	'Road Side Vertical Axis Wind Turbine'	Institute of Space Technology	Islamabad	Mechanical Engineering
NGIRI-2022-13320	'Image Processing based Entry-Exit Surveillance system'	Institute of Space Technology	Islamabad	Avionics Engineering
NGIRI-2022-13390	'Design and Development of Jammer for Anti Drone System'	Institute of Space Technology	Islamabad	Avionics Engineering
NGIRI-2022-13399	'Design and Development of a Tube Launched Loitering Munition'	Institute of Space Technology	Islamabad	Avionics/Aeronautical Engineering
NGIRI-2022-13481	'GPS Spoofing , To verify if jamming can help in successful spoofing'	Institute of Space Technology	Islamabad	Avionics Engineering
NGIRI-2022-13484	'Design and Development of a Fly By Wire System Mock Up for Avionics System Design Lab'	Institute of Space Technology	Islamabad	Avionics Engineering
NGIRI-2022-13854	'Remote Monitoring of heartbeat through micromotion doppler radar'	Institute of Space Technology	Islamabad	Avionics Engineering
NGIRI-2022-14130	'Decentralized Swarming for Cooperative Search'	Institute of Space Technology	Islamabad	Avionics/Aeronautical Engineering
NGIRI-2022-14403	'Autonomous UAV coalition of multiple UAVs to destroy dynamic targets in uncertain environments'	Institute of Space Technology	Islamabad	Electrical
NGIRI-2022-14696	'Glove which converts sign language to speech'	Institute of Space Technology	Islamabad	Electrical Engineering
NGIRI-2022-14726	'Design and Development of Multiplatform Surveillance System'	Institute of Space Technology	Islamabad	Electrical Engineering
NGIRI-2022-12762	'Pesticide Spraying Robot With Crop Disease Detection Using Remote Sensing Images'	Institute of Space Technology	KICSIT	Computer Engineering
NGIRI-2022-13275	'Pak uav Pilot assist system and drone to drone detection for aiding pilot'	Institute of Space Technology	KICSIT	Computer Engineering
NGIRI-2022-13342	'Smart Grass Cutting machine'	Institute of Space Technology	KICSIT	Computer Engineering
NGIRI-2022-15592	'Drone detection through multiple turrets'	Institute of Space Technology	KICSIT	Computer Engineering
NGIRI-2022-15744	'IOT Based Fall Detection Aid'	Institute of Space Technology	KICSIT	Computer Science
NGIRI-2022-10948	'IOT Based Automatic Vehicle Accident Detection and Rescue System'	International Islamic University	Islamabad	Electrical Engineering
NGIRI-2022-11291	'Autonomous Aerial Vehicle Based Package Delivery System'	International Islamic University	Islamabad	Electrical Engineering
NGIRI-2022-11297	'Intelligent Chicken Health Monitoring and Egg fertility assessment System'	International Islamic University	Islamabad	Electrical Engineering
NGIRI-2022-11324	'Smart Water Distribution And Wastewater Treatment System'	International Islamic University	Islamabad	Electrical Engineering
NGIRI-2022-11334	'Thermoelectric Element based smart hybrid refrigeration and dispensing system'	International Islamic University	Islamabad	Electrical/Electronics Engineering
NGIRI-2022-11348	'Teleoperated Smart Robot With Automatic Medicine Dispenser'	International Islamic University	Islamabad	Electrical

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## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-12310	'Biometric and RFID base Bike ignition and security system'	International Islamic University	Islamabad	Electrical
NGIRI-2022-12322	'Real Time DC DC Converter Data Visualization'	International Islamic University	Islamabad	Electrical
NGIRI-2022-12804	'IR Based Apple Type Detection And Sorting'	International Islamic University	Islamabad	Electrical
NGIRI-2022-13693	'IOT based arduino smart parking system with covid prevention property'	International Islamic University	Islamabad	Electrical Engineering
NGIRI-2022-13850	'RFID Based smart parking system '	International Islamic University	Islamabad	Electrical
NGIRI-2022-15730	'Design and Fabrication of Tunable Oscillating and Rotational Kinematic Damper'	International Islamic University	Islamabad	Mechanical Engineering
NGIRI-2022-15825	'Design and Fabrication of Dual Extruder Three D printer'	International Islamic University	Islamabad	Mechanical Engineering
NGIRI-2022-11447	'Head Movement Controlled Sentry Gun With Head Up Display'	Iqra National University	Main	Electrical Engineering
NGIRI-2022-12020	'prototype of heat recovery system for small industries '	Iqra National University	Main	Electrical Engineering
NGIRI-2022-12689	'Mining Worker Safety Helmet'	Iqra University	Islamabad	Computer System
NGIRI-2022-12701	'Self Driving Car'	Iqra University	Islamabad	Computing and Technology
NGIRI-2022-12736	'Medicine Investigation System'	Iqra University	Islamabad	Computer Science
NGIRI-2022-13182	'Smart Nest Box IOT Based'	Iqra University	Islamabad	Computer Science
NGIRI-2022-14064	'ROBORANT'	Iqra University	Islamabad	Computer Science
NGIRI-2022-13774	'Agricultural Drone'	Iqra University	Main	Software Engineering
NGIRI-2022-14241	'Smart Glasses '	Iqra University	Main	Computer Science
NGIRI-2022-14256	'Drone Light Show'	Iqra University	Main	Computer Science
NGIRI-2022-14314	'DIALYZER REPROCESSING MACHINE'	Iqra University	Main	Electronics Engineering
NGIRI-2022-14335	'Speed Control of AC Motor with Encoder Feedback'	Iqra University	Main	Electrical Engineering
NGIRI-2022-14336	'Deep Learning Based Human Motion Recognition'	Iqra University	Main	Electronics Engineering
NGIRI-2022-14338	'Development of Low Cost Health Prognosis Monitoring System using MYO ELECTRODE with EHealth Shield'	Iqra University	Main	Software Engineering
NGIRI-2022-14567	'Automation of Butter Production from Butter Cream by PLC'	Iqra University	Main	Electronics Engineering
NGIRI-2022-14709	'Uninterruptable Power Supply With Android Application'	Iqra University	Main	Electrical Engineering
NGIRI-2022-14870	'JetMan Robust Detection and Recognition ROBOT '	Iqra University	Main	Telecom Engineering
NGIRI-2022-15111	'Development of MYO ELECTRODE based Mobile Platform for detection of prognosis with Neurological Disable Patients '	Iqra University	Main	Software Engineering
NGIRI-2022-15483	'Smart Aeroponics System'	Iqra University	Main	Electronics Engineering
NGIRI-2022-15490	'Artificial Neural Network Based Iris Recognition'	Iqra University	Main	Telecom Engineering
NGIRI-2022-16059	'Design and Development of Women Cognitive Based Makeup Selection Device'	Iqra University	Main	Computer Science
NGIRI-2022-16061	'Smart Guide Stick'	Iqra University	Main	Computer Science
NGIRI-2022-16078	'Automatic Synchronization of generator with cloud based monitoring system'	Iqra University	Main	Electrical Engineering
NGIRI-2022-15706	'Smart helmet operated ignition and emergency alert system for bike '	Islamia College Peshawar	Main	Computer Science
NGIRI-2022-16077	'IOT Based Human Safety System'	Islamia College Peshawar	Main	Computer Science
NGIRI-2022-11208	'Modelling and Fabrication of Electric Vehicle'	Isra University	Hyderabad	Mechanical Engineering
NGIRI-2022-11216	'DESIGN FABRICATION AND ANALYSIS OF 3D PRINTER'	Isra University	Hyderabad	Mechanical Engineering
NGIRI-2022-11244	'Design and Implementation of Grid Connected System using bidirectional Energy Meter'	Isra University	Hyderabad	Electrical Power Engineering
NGIRI-2022-11326	'Interactive Physiotherapy on Virtual Reality VR Using BioFeedback Sensors'	Isra University	Hyderabad	Electrical Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-12397	'Single Phase Variable Frequency Drive for Fixed Load'	Isra University	Hyderabad	Electrical Engineering
NGIRI-2022-12431	'NON-CONVENTIONAL AC generation with solar strings'	Isra University	Hyderabad	Electrical
NGIRI-2022-14276	'IoT based Industrial protection system '	Isra University	Hyderabad	Computer Science
NGIRI-2022-12661	'KeepInTrack'	Jinnah University for Women	Karachi	Software Engineering
NGIRI-2022-12796	'CropryIoT'	Jinnah University for Women	Karachi	Software Engineering
NGIRI-2022-12856	'Onspot Cure'	Jinnah University for Women	Karachi	Software Engineering
NGIRI-2022-12979	'Track InWay'	Jinnah University for Women	Karachi	Software Engineering
NGIRI-2022-13015	'NaviTalk'	Jinnah University for Women	Karachi	Computer Science
NGIRI-2022-13055	'Vision onWay'	Jinnah University for Women	Karachi	Software Engineering
NGIRI-2022-13422	'GroWiser'	Jinnah University for Women	Karachi	Computer Science
NGIRI-2022-11033	'Upper limb exoskeleton '	Khawaja Fareed University of Engineering and Information Technology	Main	Mechanical Engineering
NGIRI-2022-11906	'Covid-19SOP&€™sDetectionandMonitoringSystem '	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science
NGIRI-2022-12655	'Smart Home Management system '	Khawaja Fareed University of Engineering and Information Technology	Main	Electrical Engineering
NGIRI-2022-12714	'Development and Assessment of Automatic Smart Irrigation System '	Khawaja Fareed University of Engineering and Information Technology	Main	Engineering and Sciences
NGIRI-2022-12816	'GSM and GPS based Garbage cleaning system'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Engineering
NGIRI-2022-13290	'Artificial intelligence based Indigeneous Photocatalytic CO2 reduction Reactor for Energy application'	Khawaja Fareed University of Engineering and Information Technology	Main	Science & Technology
NGIRI-2022-13307	'Goods Delivery Drone'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Engineering
NGIRI-2022-13314	'Iot base smart incubator system and iot base control shed '	Khawaja Fareed University of Engineering and Information Technology	Main	Software Engineering
NGIRI-2022-13324	'IOT based Health Monitoring Stick for Special Peoples '	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Engineering
NGIRI-2022-13438	'Connect IT people and Organizations with ConnectOrg'	Khawaja Fareed University of Engineering and Information Technology	Main	Software Engineering
NGIRI-2022-13715	'Donation Box'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science
NGIRI-2022-13864	'RAHBER'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science
NGIRI-2022-14047	'Computer-Aided Drug Designing against Angiotensin-Converting Enzyme 2(ACE-2) with the help of modern bioinformatics techniques and tools.'	Khawaja Fareed University of Engineering and Information Technology	Main	Bio-Informatics
NGIRI-2022-14229	'Smart Parking and Charging system for E.bikes'	Khawaja Fareed University of Engineering and Information Technology	Main	Electrical Engineering
NGIRI-2022-14252	'Soil moisture detector'	Khawaja Fareed University of Engineering and Information Technology	Main	Science & Technology
NGIRI-2022-14254	'Smart soil sensor to measure agro-economic properties '	Khawaja Fareed University of Engineering and Information Technology	Main	Science & Technology
NGIRI-2022-14293	'indigeneous nanodrop drive UV and visible spectrometer through IoP'	Khawaja Fareed University of Engineering and Information Technology	Main	Electrical
NGIRI-2022-14427	'Layer hen farming mangement'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science
NGIRI-2022-14721	'Disease Detection of crops'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science & IT
NGIRI-2022-14980	'Energy conversion and storage through piezoelectric material based sensors'	Khawaja Fareed University of Engineering and Information Technology	Main	Science & Technology
NGIRI-2022-15008	'Biometric ignition switch for the vehicle using microcontroller'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science & IT
NGIRI-2022-15013	'Vehicle Breakdown Assistantance App'	Khawaja Fareed University of Engineering and Information Technology	Main	Information Technology
NGIRI-2022-15102	'Automatic solar tracking system '	Khawaja Fareed University of Engineering and Information Technology	Main	Science & Technology
NGIRI-2022-15743	'Humara Kissan'	Khawaja Fareed University of Engineering and Information Technology	Main	Computer Science
NGIRI-2022-15916	'Merits and Future of Energy Storing Bricks'	Khawaja Fareed University of Engineering and Information Technology	Main	Electrical/Electronics Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-16053	'Portable Emergency Ventilator with Vitals Monitoring System'	Khawaja Fareed University of Engineering and Information Technology	Main	Mechanical Engineering
NGIRI-2022-16324	'Energy Efficient Prefab Eco Smart House for Alternative Housing Solutions'	Khawaja Fareed University of Engineering and Information Technology	Main	Management and Information Sciences
NGIRI-2022-12892	'FACE RECOGNITION SYSTEM'	Khushal Khan Khattak University	Karak	Computer Science
NGIRI-2022-12975	'Access Andriod Phone Through Sms'	Khushal Khan Khattak University	Karak	Computer Science
NGIRI-2022-13403	'Face Mask Detection And Alert System '	Khushal Khan Khattak University	Karak	Computer Science
NGIRI-2022-13664	'Wearable Health Monitoring System'	Kohat University of Science and Technology (KUST)	Main	Computer Science
NGIRI-2022-12534	'Smart VR Based Urban Flood Disaster Management App Using Deep Learning & Drone Technologies'	Lahore College for Women University	Lahore	Computer Science
NGIRI-2022-12616	'Smart drone scouting app for precision agriculture using whole field based deep learning techniques'	Lahore College for Women University	Lahore	Computer System
NGIRI-2022-13240	'Robo Server for food management services '	Lahore College for Women University	Lahore	Electrical Engineering
NGIRI-2022-14103	'Microcontroller based smart blind stick'	Lahore College for Women University	Lahore	Electrical Engineering
NGIRI-2022-14142	'Low cost mechanical ventilator '	Lahore College for Women University	Lahore	Electrical Engineering
NGIRI-2022-12251	'Smart Monitoring and prediction of Agriculture System'	Lahore Garrison University	Main	Computer Science
NGIRI-2022-12576	'Android based Home Automation System'	Lahore Garrison University	Main	Computer Science & IT
NGIRI-2022-12807	'Prosthetic Limb'	Lahore Garrison University	Main	Software Engineering
NGIRI-2022-13216	'DEEP LEARNING EMPOWERED CONTINUOUS BLOOD GLUCOSE MONITORING FOR DIABETES BASED ON PPG SIGNAL'	Lahore Garrison University	Main	Software Engineering
NGIRI-2022-13609	'AI Guardian'	Lahore Garrison University	Main	Computer Science
NGIRI-2022-14094	'Iot based smart gas stove '	Lahore Garrison University	Main	Computer Science
NGIRI-2022-14145	'Semi Intelligent Electric Wheelchair '	Lahore Garrison University	Main	Computer Science
NGIRI-2022-14325	'Fair Repair'	Lahore Garrison University	Main	Software Engineering
NGIRI-2022-14347	'EYE MART'	Lahore Garrison University	Main	Computer System
NGIRI-2022-14934	'A Deep Learning Approach For Non-Invasive Continuous Blood Glucose Monitoring With HRV for Diabetes Management'	Lahore Garrison University	Main	Software Engineering
NGIRI-2022-14987	'Dr Plant'	Lahore Garrison University	Main	Software Engineering
NGIRI-2022-15301	'Shopping Assistant For Visually Impaired Community'	Lahore Garrison University	Main	Computer Science
NGIRI-2022-15658	'House Boundary Detection in South Asia'	Lahore University of Management Sciences	Lahore	Computer Science
NGIRI-2022-15808	'House Boundary via satellite imagery'	Lahore University of Management Sciences	Lahore	Computer Science
NGIRI-2022-16042	'Building Height Estimation from RGB Satellite Imagery '	Lahore University of Management Sciences	Lahore	Computer Science
NGIRI-2022-11079	Automatic Medication System For Patient Care	Mehran University of Engineering & Technology	Jamshoro	Electronics Engineering
NGIRI-2022-11088	Implementation of secure anti-theft automotive system with blind spot warning system	Mehran University of Engineering & Technology	Jamshoro	Electronics Engineering
NGIRI-2022-11195	'Smart Gloves for Sign Language Communication '	Mehran University of Engineering & Technology	Jamshoro	Biomedical Engineering
NGIRI-2022-11196	'Remotely monitored low-cost portable water turbine'	Mehran University of Engineering & Technology	Jamshoro	Telecom Engineering
NGIRI-2022-11226	Synthesis And Characterization Of Aloe-Vera/ Curcumin loaded Zein Nano Fibrous Smart dressing for Diabetic foot Ulcer	Mehran University of Engineering & Technology	Jamshoro	Biomedical Engineering
NGIRI-2022-11322	'Machine Vision based Smart Spraying System for Weed and Disease Control of Vegetables'	Mehran University of Engineering & Technology	Jamshoro	Mechatronics Engineering
NGIRI-2022-11397	'Smart indoor objects delivery system'	Mehran University of Engineering & Technology	Jamshoro	Computer System Engineering
NGIRI-2022-11401	IOT BASED SMART GRID SYSTEM WITH HYBRID POWER GENERATION	Mehran University of Engineering & Technology	Jamshoro	Electronics Engineering
NGIRI-2022-11403	'SMART IOT BASED SOLAR PANEL DEFECTS DETECTION USING DRONES TECHNOLOGY'	Mehran University of Engineering & Technology	Jamshoro	Mechatronics Engineering
NGIRI-2022-11408	'SMART IOT-BASED INDUSTRIAL FIRE EXTINGUISHER SURVEILLANCE ROBOT'	Mehran University of Engineering & Technology	Jamshoro	Mechatronics Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11411	'Mobile Social Robot for Autistic Children'	Mehran University of Engineering & Technology	Jamshoro	Mechatronics Engineering
NGIRI-2022-11428	'Production Line Monitoring System For Welding Defects'	Mehran University of Engineering & Technology	Jamshoro	Mechatronics Engineering
NGIRI-2022-11437	'Design and development of soft robotic hand by flexible hybrid pneumatic actuator'	Mehran University of Engineering & Technology	Jamshoro	Mechanical Engineering
NGIRI-2022-11450	'An improved water quality monitoring IoT based system with bacterial prediction'	Mehran University of Engineering & Technology	Jamshoro	Computer System
NGIRI-2022-11463	'Smart Waste Segregation And Compaction Using IOT'	Mehran University of Engineering & Technology	Jamshoro	Computer & Information System Engineering
NGIRI-2022-11464	'FPGA Based Lane Detection And Tracking System For Autonomous Vehicles'	Mehran University of Engineering & Technology	Jamshoro	Electronics Engineering
NGIRI-2022-11558	'Speech Emotion Recognition For the Urdu Language'	Mehran University of Engineering & Technology	Jamshoro	Telecom Engineering
NGIRI-2022-11577	'Mobile Application Design, and Development of Decision-Aid Information System for Feto-Maternal Care'	Mehran University of Engineering & Technology	Jamshoro	Computer System Engineering
NGIRI-2022-11580	'Design and development of agricultural soil moisture detector and control robot.'	Mehran University of Engineering & Technology	Jamshoro	Mechanical Engineering
NGIRI-2022-11624	'Towards fourth industrial revolution impact : Soil nutrient analysis based fertilizer recommendation system'	Mehran University of Engineering & Technology	Jamshoro	Computer System Engineering
NGIRI-2022-11723	'Automated image dataset collection system for cotton crop leaves'	Mehran University of Engineering & Technology	Jamshoro	Electronics Engineering
NGIRI-2022-12149	'Protection coordination of Mehran university of engineering and technology '	Mehran University of Engineering & Technology	Jamshoro	Electrical Engineering
NGIRI-2022-12254	'Development of a Low Cost Autonomously Controlled Track Recording Vehicle'	Mehran University of Engineering & Technology	Jamshoro	Mechanical Engineering
NGIRI-2022-12516	'Evaluating the feasibility of implementing Homomorphic Encryption on Dataset. '	Mehran University of Engineering & Technology	Jamshoro	Telecom Engineering
NGIRI-2022-13145	'IoT Based Energy management and Monitoring System'	Mehran University of Engineering & Technology	Jamshoro	Computer System Engineering
NGIRI-2022-14086	'Improved Maximum Power Point Tracking Algorithms for Photovoltaic System'	Mehran University of Engineering & Technology	Jamshoro	Electrical Engineering
NGIRI-2022-14240	'Development of dark field illumination algorithm for railway dip angle detection using machine learning approach'	Mehran University of Engineering & Technology	Jamshoro	Telecom Engineering
NGIRI-2022-14275	'Power quality analysis of transmission line by using UPFC controller'	Mehran University of Engineering & Technology	Jamshoro	Electrical Engineering
NGIRI-2022-14340	'Design simulation and fabrication of maglev motor in comsol multiphysics used in artificial heart '	Mehran University of Engineering & Technology	Jamshoro	Biomedical Engineering
NGIRI-2022-14587	'TO DESIGN THE PI CONTROLLER FOR ENHANCEMENT OF PERFORMANCE OF HYBRID POWER GENERATION SYSTEM'	Mehran University of Engineering & Technology	Jamshoro	Electrical Engineering
NGIRI-2022-14609	'Design and Development of Go-Together Mobile Application (GTMA)'	Mehran University of Engineering & Technology	Jamshoro	Computer System Engineering
NGIRI-2022-14611	'identification of adulterant nature in liquids using optical sensor'	Mehran University of Engineering & Technology	Jamshoro	Telecom Engineering
NGIRI-2022-14843	'Speed Control of Brushless DC Motor Using Adaptive Fuzzz PID Speed Controller'	Mehran University of Engineering & Technology	Jamshoro	Electrical Engineering
NGIRI-2022-11220	'Design a prototype of micro grid using smart energy management based system'	Mehran University of Engineering & Technology	Khairpur	Electrical Engineering
NGIRI-2022-11316	'Booklo App'	Mehran University of Engineering & Technology	Khairpur	Software Engineering
NGIRI-2022-11496	'MUET SZAB Transport System'	Mehran University of Engineering & Technology	Khairpur	Software Engineering
NGIRI-2022-12458	'Household Energy Consumption Optimization using Cloud Computing'	Mehran University of Engineering & Technology	Khairpur	Electrical Engineering
NGIRI-2022-14529	'Experimental Analysis and Control of Wind Turbine System based on Permanent Magnet Synchronous Generator (PMSG) for Power Optimization'	Mehran University of Engineering & Technology	Khairpur	Electrical Engineering
NGIRI-2022-15333	'Power flow and Contingency Analysis of SEPCO Region Based on Grid Code using Power System Simulator'	Mehran University of Engineering & Technology	Khairpur	Electrical Engineering
NGIRI-2022-16003	'Design of Peltier Based Solarized Refrigeration System'	Mehran University of Engineering & Technology	Khairpur	Electrical Engineering
NGIRI-2022-16152	'Internet Of Things (IoT) Based Monitoring and Control System of Distribution Transformer.'	Mehran University of Engineering & Technology	Khairpur	Electrical Power Engineering
NGIRI-2022-15757	'Smart Traffic Management System'	Minhaj University	Main	Computer Science
NGIRI-2022-15758	'Anti Theft Bike System With Instant Location'	Minhaj University	Main	Computer Science
NGIRI-2022-15759	'Automatic Vehicle Accident Detection and Rescue System '	Minhaj University	Main	Computer Science
NGIRI-2022-16029	'IOT based Intelligent Gas Leakage Detector Using Arduino'	Minhaj University	Main	Computer Science

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NGIRI-2022-16032	'Smart Door With AI'	Minhaj University	Main	Computer Science & IT
NGIRI-2022-10933	'AL Niswah app'	Mirpur University of Science and Technology (MUST)	Mirpur	Computer System Engineering
NGIRI-2022-11215	'Generation of electricity from waste materials'	Mirpur University of Science and Technology (MUST)	Mirpur	Electrical Engineering
NGIRI-2022-11329	'Drive Automated System for FAR and DISTORTED Number Plate Recognition'	Mirpur University of Science and Technology (MUST)	Mirpur	Computer Science & IT
NGIRI-2022-12940	'SDN-BASED NETWORK'	Mirpur University of Science and Technology (MUST)	Mirpur	Computer Science & IT
NGIRI-2022-15206	'Solar Health Monitoring System'	Mirpur University of Science and Technology (MUST)	Mirpur	Electrical Engineering
NGIRI-2022-15353	'Deep learning based Urdu text detection & recognition'	Mirpur University of Science and Technology (MUST)	Mirpur	Computer Science & IT
NGIRI-2022-16296	'Automatic license recognition system using image processing'	Mirpur University of Science and Technology (MUST)	Mirpur	Computer System Engineering
NGIRI-2022-13841	'Agriculture Land Analysis System Using GIS And Machine Learning '	MNS University of Agriculture, Multan	Main	Computer Science
NGIRI-2022-14501	'Early Earthquake Detection Smart Bed'	MNS University of Agriculture, Multan	Main	Computer Science
NGIRI-2022-14508	'Smart Solar Power Bench'	MNS University of Agriculture, Multan	Main	Computer System
NGIRI-2022-14516	Early Gas Leakage Detection and Alert System	MNS University of Agriculture, Multan	Main	Information Technology
NGIRI-2022-14917	'MAGTS'	MNS University of Agriculture, Multan	Main	Computer Science
NGIRI-2022-15025	'Smart Car Human Protection'	MNS University of Agriculture, Multan	Main	Information Technology
NGIRI-2022-15194	'Poultry Farm Automation'	MNS University of Agriculture, Multan	Main	Computer Science
NGIRI-2022-15259	'Home Automation System'	MNS University of Agriculture, Multan	Main	Computer Science & IT
NGIRI-2022-15287	'IoT Based Smart Water Quality Monitoring System'	MNS University of Agriculture, Multan	Main	Computer Science & IT
NGIRI-2022-15585	'IoT based Animal Health Monitoring with Naive Bayes Classification'	MNS University of Agriculture, Multan	Main	Computer Science & IT
NGIRI-2022-15958	MuhCallMech App	MNS University of Agriculture, Multan	Main	Computer Science & IT
NGIRI-2022-16130	'IoT Based Indoor Smart Fish Farming in Optimal Duration'	MNS University of Agriculture, Multan	Main	Computer Science
NGIRI-2022-16462	Weather Station	MNS University of Agriculture, Multan	Main	Computer Science & IT
NGIRI-2022-13773	'An Intelligent Cleaning Robot for Solar Photovoltaic Power Plant'	Mohammad Ali Jinnah University	Karachi	Electrical Engineering
NGIRI-2022-13778	'Smart Farming System'	Mohammad Ali Jinnah University	Karachi	Software Engineering
NGIRI-2022-13782	'Computer Vision Based Smart Fruit Sorter'	Mohammad Ali Jinnah University	Karachi	Electrical Engineering
NGIRI-2022-13784	'Computer Vision-based Smart Railway Track Crack Detecting System'	Mohammad Ali Jinnah University	Karachi	Electrical Engineering
NGIRI-2022-13790	'Acedamic profile AI based prediction system'	Mohammad Ali Jinnah University	Karachi	Computer Science
NGIRI-2022-13792	'(SIGN LANGUAGE RECOGNITION) mobile application '	Mohammad Ali Jinnah University	Karachi	Computer Science
NGIRI-2022-13829	'Revolution 4.0'	Mohammad Ali Jinnah University	Karachi	Computer Science
NGIRI-2022-13928	'Identification of disregulatory genes in parkinsons disease gene expression data using bioinformatics analysis'	Mohammad Ali Jinnah University	Karachi	Bio-Informatics
NGIRI-2022-13966	'Autonomic Disease Diagnostics System for Chest Radiographs'	Mohammad Ali Jinnah University	Karachi	Computer Science
NGIRI-2022-13986	'Investiganza'	Mohammad Ali Jinnah University	Karachi	Software Engineering
NGIRI-2022-14078	'Emotion Detection from Text and Media'	Mohammad Ali Jinnah University	Karachi	Computer Science
NGIRI-2022-14102	'Digital Identity'	Mohammad Ali Jinnah University	Karachi	Software Engineering
NGIRI-2022-14161	'Smart Home'	Mohammad Ali Jinnah University	Karachi	Software Engineering
NGIRI-2022-14945	'Assessment of Special Students Needs'	Mohammad Ali Jinnah University	Karachi	Software Engineering
NGIRI-2022-16459	'Smart Contracted IoT Campus'	Mohammad Ali Jinnah University	Karachi	Computer System Engineering



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NGIRI-2022-11177	'Portable ventilator '	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Electrical Engineering
NGIRI-2022-12724	'Design and Implementation of Electric Assisted Bicycle (E-Bicycle) with Self Recharging Mechanism'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Electrical Engineering
NGIRI-2022-12760	'Smart Load Management System and IOT based Energy meter '	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Electrical Power Engineering
NGIRI-2022-12763	'Maximum Power Point Tracking Of Photo Cell With Pure Sine Wave Inverter'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Electrical Engineering
NGIRI-2022-12818	'SCADA Base Solar Irrigation System'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Electrical Engineering
NGIRI-2022-14526	'IOT and Deep Learning based Plant Monitoring System and Diseases Classification '	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Computer Science
NGIRI-2022-15152	'University Bus Tracking System'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Computer Science
NGIRI-2022-15349	'NLP Based Chatbot'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Computer Science
NGIRI-2022-15534	'Servillance Camera Using Artificial Intelligence'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Computer Science
NGIRI-2022-15565	'Text Extraction From Natural Scene'	Muhammad Nawaz Sharif University of Engineering & Technology	Main	Computer Science
NGIRI-2022-12191	'Water Treatment via Ozonation using PV Panel'	Namal College, Mianwali	Main	Electrical/Electronics Engineering
NGIRI-2022-12192	'TripGuru'	Namal College, Mianwali	Main	Computer Science
NGIRI-2022-12993	'An Autonomous Robot with Self Navigation & Book Placement for Library'	Namal College, Mianwali	Main	Electrical Engineering
NGIRI-2022-13513	'Automated voltage regulating transformer with IOT based monitoring system'	Namal College, Mianwali	Main	Electrical Engineering
NGIRI-2022-14307	'Design an autonomous robot for disinfection of enclosed spaces'	Namal College, Mianwali	Main	Electrical Engineering
NGIRI-2022-14582	'Improved Retinal Vessel Segmentation'	Namal College, Mianwali	Main	Electrical Engineering
NGIRI-2022-11662	'Smart asthma inhaler'	National Textile University	Main	Computer Science & IT
NGIRI-2022-11975	'Augmented Reality based Shoes Identification '	National Textile University	Main	Software Engineering
NGIRI-2022-12066	'Digital Ear'	National Textile University	Main	Computer System
NGIRI-2022-12490	'Thread Count Per Square Inch in Woven Fabric Using Image Processing'	National Textile University	Main	Computer Science
NGIRI-2022-12632	'Service Oriented Architecture'	National Textile University	Main	Computer Engineering
NGIRI-2022-13912	'Sign Link'	National Textile University	Main	Computer Science
NGIRI-2022-14382	'ENVISION OF 3D OBJECTS WITH AUGMENTED REALITY IN ONLINE SHOPPING '	National Textile University	Main	Computer Science & IT
NGIRI-2022-14388	'Measuring Fault Dictation in Garments'	National Textile University	Main	Computer Science
NGIRI-2022-14476	'LUNGS CANCER DETECTION USING DEEP LEARNING'	National Textile University	Main	Computer Science
NGIRI-2022-14625	'Analysis of Dental radiograph using visual computing techniques'	National Textile University	Main	Computer Science
NGIRI-2022-14907	'Caustic Concentration and Level Control System for textile industry'	National Textile University	Main	Computer Science & IT
NGIRI-2022-12024	'Aggregated Model of VPP For Stability Enhancement in Power System Network using V to G A Conceptual Framework with reference to rural electrification'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Electrical Power Engineering
NGIRI-2022-12131	'PC BUILDER'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Computer System
NGIRI-2022-13279	'EKAAM'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Computer Science
NGIRI-2022-15708	'Voltage Control of DFIG at Variable Wind Speed'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Electrical Engineering
NGIRI-2022-15725	'IoT based Solar powered Smart Irrigation system'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Electrical
NGIRI-2022-15762	'Solar Based Smart Energy Efficient Water Purifier'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Electrical Engineering
NGIRI-2022-15814	'Asset Tokenization Using Blockchain'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Computer Science
NGIRI-2022-15858	'CLUSTBY'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Computer Science

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-16380	'IoT Based Distribution Transformer Designing and Health Monitoring System'	National University of Computer and Emerging Sciences (FAST-NU)	Chiniot-Faisalabad	Electrical Engineering
NGIRI-2022-14286	'Smart electronic gadget for women safety'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Electrical Engineering
NGIRI-2022-14475	'SMART FIRE FIGHTING AND PROTECTION SYSTEM'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Electrical Engineering
NGIRI-2022-14812	'Machine Learning based Smart Grid Load Forecasting and Optimization'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Electrical Engineering
NGIRI-2022-14844	'Power Generation Through Speed Breaker'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Electrical Engineering
NGIRI-2022-14867	'KachreWala'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Computer Science
NGIRI-2022-15317	'IoT Based Smart Surveillance Using AI and Blockchain'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Electrical Engineering
NGIRI-2022-15484	'Sign Language Detection and Translation through Deep Learning'	National University of Computer and Emerging Sciences (FAST-NU)	Karachi	Computer Science
NGIRI-2022-11412	'Digital Workout'	National University of Computer and Emerging Sciences (FAST-NU)	Lahore	Computer Science
NGIRI-2022-11607	'Digital Identity Management System Through Blockchain'	National University of Computer and Emerging Sciences (FAST-NU)	Lahore	Computer Science
NGIRI-2022-12782	'Autonomous Air Sanitization Machine'	National University of Computer and Emerging Sciences (FAST-NU)	Lahore	Electrical Engineering
NGIRI-2022-15966	'Solar Powered Tractable Main Gate'	National University of Computer and Emerging Sciences (FAST-NU)	Lahore	Electrical/Electronics Engineering
NGIRI-2022-12467	'Multi Source Hybrid Cart'	National University of Computer and Emerging Sciences (FAST-NU)	Main	Electrical Power Engineering
NGIRI-2022-12598	'DeepDub'	National University of Computer and Emerging Sciences (FAST-NU)	Main	Computer Science
NGIRI-2022-15843	'Intelligent Bionic Arm'	National University of Computer and Emerging Sciences (FAST-NU)	Peshawar	Electrical/Electronics Engineering
NGIRI-2022-16091	'Enhanced Safety Protocols for Dizziness Detection Using EEG SIGNALS'	National University of Computer and Emerging Sciences (FAST-NU)	Peshawar	Electrical Engineering
NGIRI-2022-16124	'Automatic Detection and Identification of PV Array Faults Using IoT'	National University of Computer and Emerging Sciences (FAST-NU)	Peshawar	Electrical Power Engineering
NGIRI-2022-11296	'Real time Sign Language to Text and Text to sign Language Interpreter'	National University of Modern Languages	Islamabad	Software Engineering
NGIRI-2022-12147	'Virtual scene rendering for deaf people using AI based audio analysis'	National University of Modern Languages	Islamabad	Electrical Engineering
NGIRI-2022-12204	'Fault detection and diagnostic system'	National University of Modern Languages	Islamabad	Electrical Engineering
NGIRI-2022-12445	'CELLULAR NETWORK PERFORMANCE ANALYSIS FOR LTE CONTROLLED UAVs'	National University of Modern Languages	Islamabad	Electrical Engineering
NGIRI-2022-14326	'Driver's Smart Health Monitoring System'	National University of Modern Languages	Islamabad	Electrical Engineering
NGIRI-2022-15022	'NUML Smart Card System'	National University of Modern Languages	Islamabad	Software Engineering
NGIRI-2022-10892	'IOT based smart Agriculture monitoring and guiding system'	National University of Modern Languages	Rawalpindi	Electrical Engineering
NGIRI-2022-10947	'Smart Navigation System for Blind using Raspberry Pi'	National University of Modern Languages	Rawalpindi	Electrical/Electronics Engineering
NGIRI-2022-10951	'Digital stethoscope'	National University of Modern Languages	Rawalpindi	Electrical/Electronics Engineering
NGIRI-2022-11134	'Obstacle Avoidance Flight Controller Quadcopter'	National University of Modern Languages	Rawalpindi	Electrical Engineering
NGIRI-2022-11274	'Smart Greenhouse Farming based on IoT'	National University of Modern Languages	Rawalpindi	Electrical Engineering
NGIRI-2022-11309	'IoT base healthcare monitoring using ECG and respiratory system'	National University of Modern Languages	Rawalpindi	Electrical/Electronics Engineering
NGIRI-2022-11472	'restaurant menu using 3d modelling'	National University of Modern Languages	Rawalpindi	Computer Science
NGIRI-2022-11740	'Digital Polio Vaccination System'	National University of Modern Languages	Rawalpindi	Computer Science
NGIRI-2022-11760	'Patient Appointment and Documentation System through Biometric and Vital Signs Recognition'	National University of Modern Languages	Rawalpindi	Software Engineering
NGIRI-2022-11829	'Liver Tumor diagnosis Desktop Application using Deep Learning and Challenging Dataset'	National University of Modern Languages	Rawalpindi	Software Engineering
NGIRI-2022-12108	'Facial Recognition Based Intelligent Glasses For Amnesic Syndrome'	National University of Modern Languages	Rawalpindi	Software Engineering
NGIRI-2022-11379	'Packet Based L band transceiver'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11451	'Real Time Autonomous Surveillance using Multiple Drones'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics/Aeronautical Engineering
NGIRI-2022-11483	'Design and Development of Laser Absorbing Material for Main Battle Tank'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics/Aeronautical Engineering
NGIRI-2022-11490	'Design and development of Data Acquisition System for instrument system of Jet Engine Test Bed'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Aerospace Engineering
NGIRI-2022-11676	'Design and Development of AI Based Self learning Communication Jammer'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics/Aeronautical Engineering
NGIRI-2022-11677	'Design and modeling of an RL based AI agent for jamming mitigation in communication jamming environment'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics/Aeronautical Engineering
NGIRI-2022-11680	'Software development for identification of out of limit values of FDCVR system of Transport aircraft'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics Engineering
NGIRI-2022-11682	'Hand grenade capable drone'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics Engineering
NGIRI-2022-11685	'AI-DRIVEN AUTONOMOUS CRISIS REPORTING SYSTEM BASED ON ANOMALY DETECTION USING VIDEO SURVEILLANCE'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics Engineering
NGIRI-2022-11691	'Real Time Panorama Image Stitching for Implementation in Helmet Mounted Displays of Fighter Aircraft'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics Engineering
NGIRI-2022-11863	'Feedback control system design of 3rd stage of anti-satellite missile'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Aerospace Engineering
NGIRI-2022-11967	'Three Dimensional Effects and analysis on the energy harvesting performance of an oscillating wing'	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Avionics/Aeronautical Engineering
NGIRI-2022-16234	'Engineering Failure Analysis of Aerospace Applications and suggest design improvements '	National University of Science and Technology (NUST)	(CAE) College of Aeronautical Engineering	Aerospace Engineering
NGIRI-2022-13173	'Cavity Detection System'	National University of Science and Technology (NUST)	(PNEC) Pakistan Naval Engineering College	Electrical Engineering
NGIRI-2022-13471	'Secure Optical Communication using Visible and Invisible Light'	National University of Science and Technology (NUST)	(PNEC) Pakistan Naval Engineering College	Electrical Engineering
NGIRI-2022-15199	'Pavement Health Monitoring using VTOL System'	National University of Science and Technology (NUST)	(PNEC) Pakistan Naval Engineering College	Electrical Engineering
NGIRI-2022-16176	'Development of a smart glove'	National University of Science and Technology (NUST)	(PNEC) Pakistan Naval Engineering College	Mechanical Engineering
NGIRI-2022-11895	'AI based Smart Gloves'	National University of Science and Technology (NUST)	CEME	Computer Engineering
NGIRI-2022-12155	'E RAKAT'	National University of Science and Technology (NUST)	CEME	Electrical Engineering
NGIRI-2022-12606	'MIG Based Metal Additive Manufacturing System'	National University of Science and Technology (NUST)	CEME	Mechatronics Engineering
NGIRI-2022-12623	'E-Naqa System (Robotic Barrier)'	National University of Science and Technology (NUST)	CEME	Mechatronics Engineering
NGIRI-2022-14032	'Micro UAV involving flapping mechanism'	National University of Science and Technology (NUST)	CEME	Mechatronics Engineering
NGIRI-2022-14115	'Development of an IoT Platform for Condition Monitoring of Industrial Motors'	National University of Science and Technology (NUST)	CEME	Electrical Engineering
NGIRI-2022-15133	'Multi-modal Sensor Fusion (Camera, LiDAR) for Environmental Depth Perception for Autonomous Vehicles '	National University of Science and Technology (NUST)	CEME	Mechatronics Engineering
NGIRI-2022-15202	'Remote Control Vehicle for Detonation or Safe Disposal of IEDs based on video feedback'	National University of Science and Technology (NUST)	CEME	Mechatronics Engineering
NGIRI-2022-15628	'Pakistan Manufactured Automated Injection Pump'	National University of Science and Technology (NUST)	CEME	Electrical Engineering
NGIRI-2022-15644	'Ababeel Morphing Drone'	National University of Science and Technology (NUST)	CEME	Mechanical Engineering
NGIRI-2022-15650	'Design of Planar Antenna for 5G Communication'	National University of Science and Technology (NUST)	CEME	Electrical Engineering
NGIRI-2022-16434	'Smart Aerial Drone based Surveillance System'	National University of Science and Technology (NUST)	CEME	Computer Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11911	'Exo Glove for stroke patients'	National University of Science and Technology (NUST)	Main	Mechanical Engineering
NGIRI-2022-12424	'Asthma Monitoring using IoT and Edge Technology'	National University of Science and Technology (NUST)	Main	Computer Engineering
NGIRI-2022-12624	'EMG Based Arm Mounted Exoskeleton'	National University of Science and Technology (NUST)	Main	Electrical Engineering
NGIRI-2022-12628	'Wankel Rotary Engine'	National University of Science and Technology (NUST)	Main	Mechanical Engineering
NGIRI-2022-12709	'Fabrication of Layer Fused Three D Printer'	National University of Science and Technology (NUST)	Main	Electrical Engineering
NGIRI-2022-12733	'Autonomous Mobile Robot'	National University of Science and Technology (NUST)	Main	Mechanical Engineering
NGIRI-2022-12764	'Deep Learning Based Suggestive Mechanism for Aquaponics'	National University of Science and Technology (NUST)	Main	Electrical Engineering
NGIRI-2022-13087	'BIMGIS based integrated framework for Khewra salt mine Utility Management using Virtual Reality'	National University of Science and Technology (NUST)	Main	Information Technology
NGIRI-2022-14172	'Design and Development of Oxygen Concentrator'	National University of Science and Technology (NUST)	Main	Mechanical Engineering
NGIRI-2022-14448	'Design and Development of IoT Network for Smart Aquaponics'	National University of Science and Technology (NUST)	Main	Electrical Engineering
NGIRI-2022-14809	'Crop Disease Scouting using AI and IoT Technology'	National University of Science and Technology (NUST)	Main	Software Engineering
NGIRI-2022-15083	'Memorable smart tourism : An augmented reality approach to enhance user experience'	National University of Science and Technology (NUST)	Main	Software Engineering
NGIRI-2022-15172	'Refrigeration System based on Vapour Absorption Cycle having Solar Powered Generator for Domestic Use'	National University of Science and Technology (NUST)	Main	Mechanical Engineering
NGIRI-2022-15601	'Breast Cancer Detection via Microwave Imaging'	National University of Science and Technology (NUST)	Main	Electrical Engineering
NGIRI-2022-10925	'RIoT'	National University of Science and Technology (NUST)	MCS	Electrical Engineering
NGIRI-2022-11332	'Road accident avoiding system'	National University of Science and Technology (NUST)	MCS	Software Engineering
NGIRI-2022-11888	'Automated Hearing Impairment Testing Device'	National University of Science and Technology (NUST)	MCS	Telecom Engineering
NGIRI-2022-12012	'An Automated calls retrieval system'	National University of Science and Technology (NUST)	MCS	Telecom Engineering
NGIRI-2022-12333	'SMA WAF'	National University of Science and Technology (NUST)	MCS	Telecom Engineering
NGIRI-2022-13533	'Microcurve Automation System'	National University of Science and Technology (NUST)	MCS	Software Engineering
NGIRI-2022-13614	'HUNTDROID'	National University of Science and Technology (NUST)	MCS	Electrical Engineering
NGIRI-2022-16148	'Artificial Intelligence Accelerator'	National University of Science and Technology (NUST)	MCS	Electrical Engineering
NGIRI-2022-11102	'Smart Security System'	National University of Technology (NUTECH), Islamabad	Islamabad	Computer Science
NGIRI-2022-11325	'Design and Hardware Implementation of Bidirectional Power Converter For Vehicle Grid Integration'	National University of Technology (NUTECH), Islamabad	Islamabad	Electrical Engineering
NGIRI-2022-11335	'IOT Based Smart Energy System For NUTECH'	National University of Technology (NUTECH), Islamabad	Islamabad	Electrical Engineering
NGIRI-2022-11339	'GPS and IoT based Real-Time Vehicle Tracking System using Smartphone'	National University of Technology (NUTECH), Islamabad	Islamabad	Computer Engineering
NGIRI-2022-11375	'Design and Implementation of IoT based Smart Energy Meter'	National University of Technology (NUTECH), Islamabad	Islamabad	Electrical Engineering
NGIRI-2022-11497	'An automated personality prediction by video processing using deep learning '	National University of Technology (NUTECH), Islamabad	Islamabad	Computer Science
NGIRI-2022-11499	'Deep Learning-Based Facial Recognition System For Automated Attendance'	National University of Technology (NUTECH), Islamabad	Islamabad	Computer Science
NGIRI-2022-11506	'Real Time Vehicle Security System'	National University of Technology (NUTECH), Islamabad	Islamabad	Computer Science
NGIRI-2022-11567	'Design and Fabrication of Test Rig for Disc Brakes'	National University of Technology (NUTECH), Islamabad	Islamabad	Mechanical Engineering
NGIRI-2022-12044	'Wireless Electrical Power Transfer System.'	Nazeer Hussain University	Main	Electrical Engineering
NGIRI-2022-12059	'DESIGN AND DEVELOPMENT OF GAS, FIRE, SMOKE DETECTION, CONTROL AND MANAGEMENT SYSTEM'	Nazeer Hussain University	Main	Electrical Engineering
NGIRI-2022-13835	'Smart watchman'	Nazeer Hussain University	Main	Computer Science
NGIRI-2022-11131	'Deep Reinforcement Learning Based Data Driven Vector Control Design of Induction Motor Drive'	NED University of Engineering & Technology	Karachi	Electrical Engineering
NGIRI-2022-11182	'Food'	NED University of Engineering & Technology	Karachi	Software Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11661	'Remote healthcare monitoring and data analysis of patients'	NED University of Engineering & Technology	Karachi	Software Engineering
NGIRI-2022-11724	'Artificial Intelligent Predicated wearable device for detecting and assisting with FoG in Parkinson\'s patients using Cueing techniques and neural networks.'	NED University of Engineering & Technology	Karachi	Electrical Engineering
NGIRI-2022-11736	'Try on the go ð€" Artificial Intelligence and Computer Vision powered Virtual Try-on for E-Commerce'	NED University of Engineering & Technology	Karachi	Software Engineering
NGIRI-2022-11990	'Energy Efficient Appliance Automation'	NED University of Engineering & Technology	Karachi	Telecom Engineering
NGIRI-2022-12062	'AIRLINE CUSTOMER MODEL WITH AUTOMATED MESSAGE ALERT'	NED University of Engineering & Technology	Karachi	Telecom Engineering
NGIRI-2022-12134	'Secure fee payment and real time monitoring for campus transport'	NED University of Engineering & Technology	Karachi	Computer & Information System Engineering
NGIRI-2022-12180	'Digitalized Blood Donor Finder Platform'	NED University of Engineering & Technology	Karachi	Computer Science & IT
NGIRI-2022-12311	'NED Shuttle Service'	NED University of Engineering & Technology	Karachi	Computer Science & IT
NGIRI-2022-12462	'Voice Controlled Smart Car'	NED University of Engineering & Technology	Karachi	Electronics
NGIRI-2022-12470	'Design of Migraine Management Device'	NED University of Engineering & Technology	Karachi	Biomedical Engineering
NGIRI-2022-12495	'Non-destructive Classification of woven fabrics using Machine Learning '	NED University of Engineering & Technology	Karachi	Telecom Engineering
NGIRI-2022-12525	'AI Enabled DR Diagnosis FYP '	NED University of Engineering & Technology	Karachi	Computer & Information System Engineering
NGIRI-2022-12555	'Software defined camera for outdoor surveillance'	NED University of Engineering & Technology	Karachi	Computer & Information System Engineering
NGIRI-2022-12658	'Mask occluded face recognition using Generative Adversarial Network'	NED University of Engineering & Technology	Karachi	Electronics Engineering
NGIRI-2022-12660	'Wearable Heat Stroke Prevention Device'	NED University of Engineering & Technology	Karachi	Biomedical Engineering
NGIRI-2022-12810	'AI Enabled Urdu OCR for Mobile Devices'	NED University of Engineering & Technology	Karachi	Computer System Engineering
NGIRI-2022-12876	'Development of Solar thermal Refrigerator'	NED University of Engineering & Technology	Karachi	Mechanical Engineering
NGIRI-2022-12981	'Smart Digital Speedometer and Cruise Control System for Motorbikes'	NED University of Engineering & Technology	Karachi	Electronics Engineering
NGIRI-2022-13115	'Fabrication and Installation of One KW Hydel River Turbine at Northern Areas of Pakistan'	NED University of Engineering & Technology	Karachi	Mechanical Engineering
NGIRI-2022-13421	'Neuromodulation For Essential tremor'	NED University of Engineering & Technology	Karachi	Biomedical Engineering
NGIRI-2022-13435	'OBD CHARM'	NED University of Engineering & Technology	Karachi	Software Engineering
NGIRI-2022-13906	'Smart Manufacturing Workstation '	NED University of Engineering & Technology	Karachi	Engineering and Sciences
NGIRI-2022-14030	'Design Of Low Cost Medical, Portable Oxygen Concentrator'	NED University of Engineering & Technology	Karachi	Electrical
NGIRI-2022-14398	'Development of Assistive moving robot for commercial and educational purposes'	NED University of Engineering & Technology	Karachi	Electronics Engineering
NGIRI-2022-14470	'Design and development of a Quadruped robot'	NED University of Engineering & Technology	Karachi	Electrical Engineering
NGIRI-2022-14807	'Air water generator'	NED University of Engineering & Technology	Karachi	Electronics Engineering
NGIRI-2022-15158	'Smart Library Assisstant Robot'	NED University of Engineering & Technology	Karachi	Computer System Engineering
NGIRI-2022-15295	'Agricultural Field Demarcation Measurement and crop detection using machine learning algorithms'	NED University of Engineering & Technology	Karachi	Computer & Information System Engineering
NGIRI-2022-15351	'Three phase BLDC motor controller using FOC algorithm'	NED University of Engineering & Technology	Karachi	Electronics
NGIRI-2022-15360	'Development of Low Cost Stationary Laser Scanning System for Generation of Building Information Models'	NED University of Engineering & Technology	Karachi	Electronics Engineering
NGIRI-2022-15383	'Virtual School'	NED University of Engineering & Technology	Karachi	Software Engineering
NGIRI-2022-15682	'Adaptation of Smart contract in supply chain management using IOT'	NED University of Engineering & Technology	Karachi	Telecom Engineering
NGIRI-2022-15745	'Low Temperature Synthesis and Electro-Mechanical Testing of Zinc Oxide Thin Films on Polymeric Substrates'	NED University of Engineering & Technology	Karachi	Mechanical Engineering
NGIRI-2022-15815	'Smart Design of five axis Computer Numerical Control machine for Industrial applications'	NED University of Engineering & Technology	Karachi	Electrical Engineering
NGIRI-2022-15882	'Smart Virtual Training Mirror '	NED University of Engineering & Technology	Karachi	Telecom Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-15886	'Development of Working Prototype of Wearable Health Monitoring System'	NED University of Engineering & Technology	Karachi	Mechanical Engineering
NGIRI-2022-15890	'Development of Textile based Strain Sensing Actuator'	NED University of Engineering & Technology	Karachi	Mechanical Engineering
NGIRI-2022-16178	'Smart Commercial Single Axis Solar Tracking System'	NED University of Engineering & Technology	Karachi	Electrical Engineering
NGIRI-2022-16200	'EYES N EARS (A Smart Support for Physically Challenged People)'	NED University of Engineering & Technology	Karachi	Computer & Information System Engineering
NGIRI-2022-16357	'An Editor to Autocomplete sentences in Urdu using Natural Language Processing'	NED University of Engineering & Technology	Karachi	Computer System Engineering
NGIRI-2022-12316	'Human Controlled Telepresence Robot using smart glasses'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Engineering
NGIRI-2022-12394	'BROACHING UNCOUTH WATER LEVEL SNAGE IN UNDER-SURFACE FIELD THROUGH REMOTE SENSORS'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Engineering
NGIRI-2022-12822	'Optimal Setting and Sizing of Capacitor banks with an Integrated Micro Grid'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Engineering
NGIRI-2022-12980	'Development of Artificial intelligence system for integration of fast charging station under smart grid environment'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Power Engineering
NGIRI-2022-12997	'IOT mining and tracking helmet'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Power Engineering
NGIRI-2022-13057	'UV Sensor Based Dual-Axis Solar Tracking System: Implementation and Analysis'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Engineering
NGIRI-2022-13098	'Portable High Voltage Electromagnetic Pulse Generator'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical Engineering
NGIRI-2022-15305	'Real Time Environment Sensing and Monitoring System for Coal mining using RF module'	NFC Institute of Engineering and Technology (NFC-UET)	Multan	Electrical
NGIRI-2022-11766	'E Donation App'	PAF Karachi Institute of Economics and Technology	Main	Computer System
NGIRI-2022-11813	'Automated Border Control System'	PAF Karachi Institute of Economics and Technology	Main	Computer Science
NGIRI-2022-11845	'Mars Perseverance Rover Replica with Arduino'	PAF Karachi Institute of Economics and Technology	Main	Mechatronics Engineering
NGIRI-2022-11864	'Design and development of a pure sine wave inverter: A safe supply for digital networks.'	PAF Karachi Institute of Economics and Technology	Main	Electrical Engineering
NGIRI-2022-11870	'Autonomous EOD Robot '	PAF Karachi Institute of Economics and Technology	Main	Mechatronics Engineering
NGIRI-2022-11874	'Autonomous Waypiont Navigation of Quadcopter using Python Script'	PAF Karachi Institute of Economics and Technology	Main	Mechatronics Engineering
NGIRI-2022-11880	'Hexapod Robot'	PAF Karachi Institute of Economics and Technology	Main	Mechatronics Engineering
NGIRI-2022-12100	'Design and development of quality control and power monitoring system for dairy shops.'	PAF Karachi Institute of Economics and Technology	Main	Electrical Engineering
NGIRI-2022-12166	'Soldier Health Monitoring And Position Tracking System'	PAF Karachi Institute of Economics and Technology	Main	Electrical Engineering
NGIRI-2022-12181	'Solar Portal System'	PAF Karachi Institute of Economics and Technology	Main	Computer Science
NGIRI-2022-12253	'Design and implementation of prepaid water monitoring system with analysis of nutrients using IOT'	PAF Karachi Institute of Economics and Technology	Main	Electrical Engineering
NGIRI-2022-12302	'Design and Development of solar based MPPT Inverter'	PAF Karachi Institute of Economics and Technology	Main	Electrical Engineering
NGIRI-2022-12378	'Design And Development of Smart Solar-Flower Water Pump System for Agricultural Field'	PAF Karachi Institute of Economics and Technology	Main	Electrical
NGIRI-2022-12408	'Waste Management Application '	PAF Karachi Institute of Economics and Technology	Main	Computer Science
NGIRI-2022-12464	'6-DOF Test Bench for Quadcopters'	PAF Karachi Institute of Economics and Technology	Main	Avionics Engineering
NGIRI-2022-12471	'3-dof flight simulator& Force feedback controller'	PAF Karachi Institute of Economics and Technology	Main	Avionics Engineering
NGIRI-2022-12601	'Five Dimensions'	PAF Karachi Institute of Economics and Technology	Main	Computer Science
NGIRI-2022-12607	'Child Security System'	PAF Karachi Institute of Economics and Technology	Main	Computer Science
NGIRI-2022-12795	'Malware Prediction System using Machine and Deep Learning'	PAF Karachi Institute of Economics and Technology	Main	Computer Science & IT
NGIRI-2022-13045	'Sales Improver '	PAF Karachi Institute of Economics and Technology	Main	Software Engineering
NGIRI-2022-11738	'Wrench King Auto Repair'	PAF Karachi Institute of Economics and Technology	North Campus	Computer & Information System Engineering
NGIRI-2022-11801	'Autonomous Trolley With Smart Billing'	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science
NGIRI-2022-11896	'Thief Detection and controlling system of a vehicle using GPS GSM '	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-12289	'SMART MOTOR BIKE'	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science & IT
NGIRI-2022-12290	'Air Quality Monitoring System'	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science
NGIRI-2022-12429	'Smart Mirror'	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science
NGIRI-2022-12620	'Sewerage Detection System'	PAF Karachi Institute of Economics and Technology	North Campus	Computer Science
NGIRI-2022-11153	'An iot Frame work for overall equipment effectiveness monitoring'	Pakistan Institute of Engineering and Applied Sciences (PIEAS)	Islamabad	Electrical Engineering
NGIRI-2022-11881	'Environmental Adaptation for the Urban Scene Understanding of Autonomous Vehicles'	Pakistan Institute of Engineering and Applied Sciences (PIEAS)	Islamabad	Computer Science
NGIRI-2022-12026	'Predictive Maintenance in Smart Industry '	Pakistan Institute of Engineering and Applied Sciences (PIEAS)	Islamabad	Electrical Engineering
NGIRI-2022-13876	'Design and implementation of IoT based industrial monitoring and control system using LabVIEW'	Pakistan Institute of Engineering and Applied Sciences (PIEAS)	Islamabad	Electrical Engineering
NGIRI-2022-11209	'RoboEye'	PMAS - Arid Agriculture University	University Institute of Information Technology	Computer Science
NGIRI-2022-11583	'Smart Trash collector'	PMAS - Arid Agriculture University	University Institute of Information Technology	UIIT
NGIRI-2022-11589	'Sitting Plan Identification '	PMAS - Arid Agriculture University	University Institute of Information Technology	UIIT
NGIRI-2022-12132	'AR Badminton Game'	PMAS - Arid Agriculture University	University Institute of Information Technology	Software Engineering
NGIRI-2022-11599	'Number Plate Detection and Recognition'	Punjab University	PUCIT, New Campus	Computer Science
NGIRI-2022-13766	'Road Health and Monitoring System'	Punjab University	PUCIT, Old Campus	Computer Science & IT
NGIRI-2022-16092	'E Voting System'	Punjab University	PUCIT, Old Campus	Computer Science
NGIRI-2022-12111	'Development of Automated Hydroponics '	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electronics Engineering
NGIRI-2022-12788	'Microcontroller Based Plastic Injection Molding Machine'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Mechanical Engineering
NGIRI-2022-13027	'Development in a Power Generation through a Renewable Highway Savonius Vertical Axis Wind Turbine System '	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electrical
NGIRI-2022-13300	'IOT BASED SMART BATTERY MONITORING SYSTEM USING NODEMCU AND THINK SPEAK'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electrical Engineering
NGIRI-2022-13464	'Gesture control robotic arm using Myo armband'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electronics Engineering
NGIRI-2022-14390	'Design and hardware implementation of highly efficient fuzzy logic based MPPT controller for PV applications'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electrical
NGIRI-2022-15071	'Design and Development of Interior Permanent Magnet Motor for Electric Traction Applications'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electrical Engineering
NGIRI-2022-15165	'Yolo Based object detection and distance estimation using Jetson nano'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electronics Engineering
NGIRI-2022-16133	'Development of Solar powered parallel manipulators for Multi purpose Agricultural Seeding'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Mechanical Engineering
NGIRI-2022-16569	'Charging Station For Electric Vehicles'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Larkano	Electronics Engineering
NGIRI-2022-11135	'ROMANIZED SINDHI TEXT FOR POS TAGGING AND SENTIMENT ANALYSIS '	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Information Technology
NGIRI-2022-11953	'Live Multi Persons Attendance System'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Computer Science
NGIRI-2022-12508	'Design and fabrication of three axis CNC laser cutting and engraving machine'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Mechanical Engineering
NGIRI-2022-12523	'Prototype development of wind turbine system'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electronics Engineering
NGIRI-2022-12645	'Plant Disease Recognition System'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Computer Science & IT
NGIRI-2022-12698	'VALIDATION OF MULTIPLE PATH LOSS MODELS THROUGH FIELD MEASUREMENTS'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Telecom Engineering
NGIRI-2022-12966	'Speaking system for mute using hand gesture'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electronics Engineering
NGIRI-2022-12992	'Smart Blind Stick'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electronics Engineering
NGIRI-2022-13094	'GAIT ANALYSIS FOR ANOMALY DETECTION IN THE WALKING PATTERN OF HUMANS'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electronics Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13325	'Improved speed control of a dc drive system based on four quadrat control method.'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electrical Engineering
NGIRI-2022-13329	'Accident prevention detection and reporting system '	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Telecom Engineering
NGIRI-2022-13622	'Design and implementation of Inverter for general load'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electrical Engineering
NGIRI-2022-14282	'Automatic Solar Based Water Heating System Through Convex lens'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Electronics Engineering
NGIRI-2022-14462	'Low Cost IC's Based Digital Logic Design (DLD) /Digital Electronics Lab Modules.'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Telecom Engineering
NGIRI-2022-15833	'Blood donation application'	Quaid-e-Awam University of Engineering, Science & Technology (QUEST)	Nawabshah	Computer System Engineering
NGIRI-2022-12493	'Internet of things iot based smart office'	Quaid-e-Azam University	Main	Computer Science
NGIRI-2022-12545	'Iot based covid patient health monitor in quarantine'	Quaid-e-Azam University	Main	Computer Science
NGIRI-2022-12546	'QAU Digital Assistant for Students'	Quaid-e-Azam University	Main	Computer Science
NGIRI-2022-12547	'Women Safety Mobile Application '	Quaid-e-Azam University	Main	Computer Science
NGIRI-2022-12551	'QAU Air Pollution Monitoring System '	Quaid-e-Azam University	Main	Computer Science
NGIRI-2022-15693	'10x10 Bit Multiplier'	Quaid-e-Azam University	Main	Electronics
NGIRI-2022-15772	Internet of Things Network to Inhibit power Theft in Power Distribution Network	Quaid-e-Azam University	Main	Electronics
NGIRI-2022-16126	'Handwritten Text Recognition '	Quaid-e-Azam University	Main	Electronics
NGIRI-2022-13545	'Missing Person Portal'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Computer Science & IT
NGIRI-2022-13599	'IoT based weather monitoring system'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Electrical Engineering
NGIRI-2022-13824	'Telecommunication Customer Churn Predication'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Computer Science & IT
NGIRI-2022-13881	'Wirelessly Controlled Smart Irrigation System Modeling for Precise Application of Water Using IoT based Open Source Technologies'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Electrical Engineering
NGIRI-2022-15784	'Real Time Face Attendance System'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Computer Science & IT
NGIRI-2022-16045	'Employee Management System with QR CodeAttendance'	Qurtaba University of Science & Information Technology	Dera Ismail Khan	Computer Science
NGIRI-2022-13370	'infant health breathing problems while sleeping laying while flipped'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science & IT
NGIRI-2022-13373	'A Data Science Project For The Prediction Of TB'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science & IT
NGIRI-2022-13504	'tracking system for child and their parents'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science & IT
NGIRI-2022-14694	'Smart University Automatic Attendance with Student Card and Class Availability System'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science & IT
NGIRI-2022-14886	'Smart Drone Delivery System'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science
NGIRI-2022-16415	'Smart healthcare system for diabetes patient and doctor'	Qurtaba University of Science & Information Technology	Peshawar	Computer Science & IT
NGIRI-2022-12591	'Wireless energy transfer using tesla coil '	Riphah International University	Faisalabad	Department of Electrical Technology
NGIRI-2022-12838	'Load control by IOT based efficient hybrid solar thermoelectric generation system by water cooling mechanism'	Riphah International University	Faisalabad	Electrical Engineering
NGIRI-2022-12936	'Automatic Accident Detection and Messaging the Rescue System'	Riphah International University	Faisalabad	Department of Electrical Technology
NGIRI-2022-16072	'IOT as an efficient monitoring system for control shed Poultry Farming'	Riphah International University	Faisalabad	Electrical Engineering
NGIRI-2022-11125	'Design and Fabrication of Electric Bike'	Riphah International University	Islamabad	Electrical Engineering
NGIRI-2022-11293	'On-Board Integrated Charger For Electric Vehicles(using MMC)'	Riphah International University	Islamabad	Electrical Engineering
NGIRI-2022-11353	'IoT based highway wind turbines for electricity generation'	Riphah International University	Islamabad	Electrical Engineering
NGIRI-2022-11398	'Smart Electronic Voting Machine'	Riphah International University	Islamabad	Electrical
NGIRI-2022-11440	'Medical AI Hybridization'	Riphah International University	Islamabad	Computer Science



# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11793	'Unmanned Aerial Vehicle For Pesticides spraying'	Riphah International University	Islamabad	Electrical Engineering
NGIRI-2022-12080	'EMG Acquisition System'	Riphah International University	Islamabad	Biomedical Engineering
NGIRI-2022-12627	'Automation System'	Riphah International University	Islamabad	Computer Science
NGIRI-2022-13295	'Design and Development of Digital Stethoscope '	Riphah International University	Islamabad	Biomedical Engineering
NGIRI-2022-13334	'Design and Development of Portable Oxygen Concentrator'	Riphah International University	Islamabad	Biomedical Engineering
NGIRI-2022-14062	'Autonomous Vehicle'	Riphah International University	Islamabad	Software Engineering
NGIRI-2022-14217	'Development of infant simulator for the testing of sleep apnea monitor'	Riphah International University	Islamabad	Biomedical Engineering
NGIRI-2022-14546	'Comparison of Biomarkers for Diagnosis of Alzheimer\'s Disease'	Riphah International University	Islamabad	Biomedical Engineering
NGIRI-2022-14874	'Block Chain Pets'	Riphah International University	Islamabad	Software Engineering
NGIRI-2022-14880	'QuicB Website building Tool'	Riphah International University	Islamabad	Software Engineering
NGIRI-2022-14911	'Water Quality Predictor '	Riphah International University	Islamabad	Computer Science
NGIRI-2022-14938	'Interactive E Learning'	Riphah International University	Islamabad	Computer Science
NGIRI-2022-15016	'Digital Hydroponic'	Riphah International University	Islamabad	Computer Science
NGIRI-2022-15354	'Online Transportation System '	Riphah International University	Islamabad	Software Engineering
NGIRI-2022-15663	'Reactive Power Compensation Using FACTS Devices'	Riphah International University	Islamabad	Electrical Engineering
NGIRI-2022-12896	'IoT Base Hybrid E-Bike Charging Station'	Riphah International University	Lahore	Electrical Engineering
NGIRI-2022-12897	'Open Air Source Ventilator'	Riphah International University	Lahore	Electrical Engineering
NGIRI-2022-13001	'Designing efficient cooling system for conventional cars'	Riphah International University	Lahore	Electrical Engineering
NGIRI-2022-13035	'Smart Real Time(SRT) load management system through mobile app.'	Riphah International University	Lahore	Electrical Engineering
NGIRI-2022-13776	'Impact of Static var compensator for the Power Factor Improvement'	Riphah International University	Lahore	Electrical Power Engineering
NGIRI-2022-16484	'RFID Based Parking System'	Riphah International University	Lahore	Computer Science
NGIRI-2022-16486	'Smart Car'	Riphah International University	Lahore	Computer Science
NGIRI-2022-16493	Gesture Control Robotic Car with Object placing Robotic Arm	Riphah International University	Lahore	Electrical Engineering
NGIRI-2022-11698	'Using XAI in to detect breast cancer'	Salim Habib University(Barrett Hodgson University)	The Salim Habib	Computer Science & IT
NGIRI-2022-11754	'Non-invasive measurement of JVP'	Salim Habib University(Barrett Hodgson University)	The Salim Habib	Biomedical Engineering
NGIRI-2022-12753	'Dashboard Virtual Assistant'	Salim Habib University(Barrett Hodgson University)	The Salim Habib	Computer Science
NGIRI-2022-13433	'Prototyping a telepresence robot using RPM technology'	Salim Habib University(Barrett Hodgson University)	The Salim Habib	Biomedical Engineering
NGIRI-2022-12677	'Development of the Smart Irrigation System Based On Real-Time Data for Sustainable Agriculture in Pakistan'	Sarhad University of Science and IT	Main	Computer Science & IT
NGIRI-2022-12718	'Smart Robotic Pattern Drawing For Pakistan\'s Textile Industry'	Sarhad University of Science and IT	Main	Computer Science & IT
NGIRI-2022-15754	'Handwritten Text Recognition'	Sarhad University of Science and IT	Main	Computer Science & IT
NGIRI-2022-11468	'Voice Controlled Home Automation System (Hardware)'	Shah Abdul Latif University, Khairpur	Khairpur	Computer Science
NGIRI-2022-11586	'Design and Development of IoT Based Smart Mirror'	Shah Abdul Latif University, Khairpur	Khairpur	Computer Science & IT
NGIRI-2022-11668	'DESIGN AND DEVELOPMENT OF DOOR AND DEVICE CONTROLLER'	Shah Abdul Latif University, Khairpur	Khairpur	Computer Science
NGIRI-2022-11861	'Ultimate Car Racing Game'	Shah Abdul Latif University, Khairpur	Khairpur	Computer Science
NGIRI-2022-15766	'Tomato plant diseases classification'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Computer Science & IT
NGIRI-2022-15994	'An App to help protect women from roadside incidents'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Computer Science & IT

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-16216	'Nawabshah Donors Hub'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Information Technology
NGIRI-2022-16223	'SBBU ALERT APP'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Information Technology
NGIRI-2022-16427	'Disable Child System'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Information Technology
NGIRI-2022-16591	'Voice Enabled WheelChair'	Shaheed Benazir Bhutto University, Shaheed Benazirabad	Nawabshah	Information Technology
NGIRI-2022-10894	'Automated Aerial Tracking and Motion Detection Using Quadcopter'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Hyderabad	Computer Science
NGIRI-2022-15401	'Hold to Ransom'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Islamabad	Computer Science
NGIRI-2022-15415	'Zero Hunger'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Islamabad	Computer Science
NGIRI-2022-15424	'Grit The One Man Army'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Islamabad	Computer Science
NGIRI-2022-15452	'Garbage Classification Using Machine Learning'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Islamabad	Computer Science
NGIRI-2022-15463	'Augmented Reality based Kids Learning'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Islamabad	Computer Science
NGIRI-2022-13232	'ASAAN KISAN'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Larkana	Computer Science
NGIRI-2022-13658	'Falah e khalq donation application'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Larkana	Computer Science
NGIRI-2022-13955	'Masked Face Recognition'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Larkana	Computer Science
NGIRI-2022-14216	'Course Content Evaluation System'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Larkana	Computer Science
NGIRI-2022-11337	'Smart Material Feeder for Pakistani Manufacturers'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Mechatronics Engineering
NGIRI-2022-11846	'Vision AI'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Computer Science
NGIRI-2022-11866	'Apartment Management System OTS'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Computer Science
NGIRI-2022-12083	'Bill To Bill Changer'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Mechatronics Engineering
NGIRI-2022-12129	'AGV Rice Transplanter'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Mechatronics Engineering
NGIRI-2022-12163	'Automated Vertical Warehouse System'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Mechatronics Engineering
NGIRI-2022-12164	'Garbage Sorting Machine'	Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST)	Main	Mechatronics Engineering
NGIRI-2022-11769	'Corona Virus Inspection Robot powered By Data Science AI'	Sindh Agrculture University	Tando Jam	Information Technology
NGIRI-2022-14237	'AI BASED PLANT DISEASE DETECTION WITH ANDROID & IOS APP'	Sindh Agrculture University	Tando Jam	Information Technology
NGIRI-2022-14306	'Smart system for police by using AI and IoT'	Sindh Agrculture University	Tando Jam	Information Technology
NGIRI-2022-12327	'Pro Urdu Lingo'	Sindh Madresatul Islam University	Karachi	Computer Science
NGIRI-2022-12337	'Sign language recognition application'	Sindh Madresatul Islam University	Karachi	Computer Science
NGIRI-2022-12343	'Crypto Wallet App'	Sindh Madresatul Islam University	Karachi	Computer Science
NGIRI-2022-12405	'Chat Bot for Programming Languages'	Sindh Madresatul Islam University	Karachi	Computer Science
NGIRI-2022-12436	'Recommendation System For Patients'	Sindh Madresatul Islam University	Karachi	Computer Science
NGIRI-2022-10912	'Glucometer'	Sir Syed University of Engineering and Technology (SSUET)	Main	Biomedical Engineering
NGIRI-2022-10955	'Underwater Vehicle for Marine Life'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electronics Engineering
NGIRI-2022-11237	'Rover Robot'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electrical Engineering
NGIRI-2022-11579	'Automation of Plant and IOT based Data Analysis'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electronics Engineering
NGIRI-2022-11619	'EMG controlled myoelectric upper limb prosthetic'	Sir Syed University of Engineering and Technology (SSUET)	Main	Biomedical Engineering
NGIRI-2022-11630	'Pest identification and classification'	Sir Syed University of Engineering and Technology (SSUET)	Main	Software Engineering
NGIRI-2022-11733	'Smart Brain Computer Interface for Controlling and Monitoring of Medical Bed'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electronics Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11827	'smart pillow'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science & IT
NGIRI-2022-12152	'DUAL POWERED ELECTRIC WALKING BIKE'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electrical Engineering
NGIRI-2022-12189	'Automated stretcher convertible to wheel chair'	Sir Syed University of Engineering and Technology (SSUET)	Main	Biomedical Engineering
NGIRI-2022-12775	'Design and Implementation of smart load management system '	Sir Syed University of Engineering and Technology (SSUET)	Main	Electrical Engineering
NGIRI-2022-12879	'Delta 3D printer'	Sir Syed University of Engineering and Technology (SSUET)	Main	Electrical Engineering
NGIRI-2022-12961	'HRTS VR repairing game environment '	Sir Syed University of Engineering and Technology (SSUET)	Main	Software Engineering
NGIRI-2022-13125	'ARG Automated Report Generation Of X-rays'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science & IT
NGIRI-2022-13531	'Detecting And Diagnosing COVID-19 & TB Using Machine Learning'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science & IT
NGIRI-2022-13592	'Mental Healthcare Application using AR/VR'	Sir Syed University of Engineering and Technology (SSUET)	Main	Software Engineering
NGIRI-2022-13617	'Find and rehabilitate the missing drug addicts using ML'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science & IT
NGIRI-2022-13619	'Depression and Stress Detection Using Speech Emotion Recognition '	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science
NGIRI-2022-13967	'SAHARA - Smart Health Band for the Elderly'	Sir Syed University of Engineering and Technology (SSUET)	Main	Biomedical Engineering
NGIRI-2022-14097	'Android based infant incubator'	Sir Syed University of Engineering and Technology (SSUET)	Main	Biomedical Engineering
NGIRI-2022-14570	'AI Based Degradation Trend Estimation of Aerial Bundle Cable For Efficient Preventive Maintenance'	Sir Syed University of Engineering and Technology (SSUET)	Main	Telecom Engineering
NGIRI-2022-14626	'Life Saver Project'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science & IT
NGIRI-2022-14648	'Smart Brains '	Sir Syed University of Engineering and Technology (SSUET)	Main	Software Engineering
NGIRI-2022-14719	'AgriSense Soil and Pest Solutions using Deep Learning'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science
NGIRI-2022-14782	'Hybrid power station '	Sir Syed University of Engineering and Technology (SSUET)	Main	Electronics Engineering
NGIRI-2022-14796	'IOT based Patient Health Monitoring'	Sir Syed University of Engineering and Technology (SSUET)	Main	Telecom Engineering
NGIRI-2022-14840	'Smart Water Quality Monitoring System using IOT'	Sir Syed University of Engineering and Technology (SSUET)	Main	Software Engineering
NGIRI-2022-15062	'Brain Tumor Detection Based On Convolutional Neural Network'	Sir Syed University of Engineering and Technology (SSUET)	Main	Telecom Engineering
NGIRI-2022-15230	'Siren Care'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science
NGIRI-2022-15306	'Cost-Efficient and Smart Automated Structural Health Monitoring System using Micro-Controller UAV-Driven Drone'	Sir Syed University of Engineering and Technology (SSUET)	Main	Engineering and Sciences
NGIRI-2022-15796	'Pest Control and Agriculture using YOLO and CNN'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science
NGIRI-2022-15854	'Person detection and tracking system in crowd environment from live video using deep learning'	Sir Syed University of Engineering and Technology (SSUET)	Main	Computer Science
NGIRI-2022-10971	'Automatic Coil Winding Machine Using Arduino and PLC '	Sukkur IBA University	Main	Electrical/Electronics Engineering
NGIRI-2022-11358	'Design And Prototype of Three Phase,All in One, Digital Different Relay for Lab Purpose'	Sukkur IBA University	Main	Electrical Power Engineering
NGIRI-2022-11718	'Design Develop Implementation and Promotion of Cost effective IoT based Greenhouse to control the Carbon Dioxide emission in Pakistan '	Sukkur IBA University	Main	Electrical/Electronics Engineering
NGIRI-2022-12058	'Highly Robust Soft Strain Sensor Based On Conductive Wavy Fluidic Channel For Health Monitoring And Robotic Applications'	Sukkur IBA University	Main	Electrical Engineering
NGIRI-2022-12172	'Simulation and Hardware Design of three kW Brushless DC motor '	Sukkur IBA University	Main	Electrical Engineering
NGIRI-2022-12174	'Design of ultra-flexible skin-like AI augmented sensor fusion for human wearable monitoring of Osteoarthritis'	Sukkur IBA University	Main	Electrical Engineering
NGIRI-2022-12674	'Smart Irrigation and Protection System using AI and IoT'	Sukkur IBA University	Main	Computer Science
NGIRI-2022-13206	'E AMBULANCE'	Sukkur IBA University	Main	Computer Science
NGIRI-2022-13289	'Cotton Crop Disease Detection and Prevention Suggestion System'	Sukkur IBA University	Main	Computer Science
NGIRI-2022-13409	'DimDrive IoT based smart energy meter and controller'	Sukkur IBA University	Main	Computer Science

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NGIRI-2022-14737	'PORTABLE SOLAR WATER GENERATOR FOR REMOTE AREAS'	Sukkur IBA University	Main	Electrical Engineering
NGIRI-2022-14746	'IoT and Virtual Assistant Based Smart Home System'	Sukkur IBA University	Main	Computer Science
NGIRI-2022-14825	'Design and fabrication of soft robotic hand with embodied sensing for motion impaired humans'	Sukkur IBA University	Main	Electrical/Electronics Engineering
NGIRI-2022-14961	'SUSPICIOUS MOVEMENT DETECTION THROUGH COMPUTER VISION'	Sukkur IBA University	Main	Computer System
NGIRI-2022-15841	'Date fruits classification using AI'	Sukkur IBA University	Main	Electrical Engineering
NGIRI-2022-12486	'Design of 5G Antenna and it\'s optimization using AI (Machine learning)'	The Islamia University of Bahawalpur	Baghdad	Information & Communication Technology
NGIRI-2022-12491	'Self Healing Network automation system'	The Islamia University of Bahawalpur	Baghdad	Telecom Engineering
NGIRI-2022-12537	'A Smart Monitoring of Power Transformer for Transients Heat and Moisture ambience using DHT sensor'	The Islamia University of Bahawalpur	Baghdad	Electrical Engineering
NGIRI-2022-12646	'Automation of Town Boarder Station'	The Islamia University of Bahawalpur	Baghdad	Electronics Engineering
NGIRI-2022-12765	'IOT Based Design of Automatic Fault Detection and Efficient Energy Management for Street Light'	The Islamia University of Bahawalpur	Baghdad	Electrical Engineering
NGIRI-2022-13082	'Design and Verification of Asynchronous FIFO using System Verilog'	The Islamia University of Bahawalpur	Baghdad	Telecom Engineering
NGIRI-2022-13933	'Sentiment Analysis System for Roman Urdu'	The Islamia University of Bahawalpur	Baghdad	Computer System Engineering
NGIRI-2022-14226	'Textile defect images defection through deep learning approach'	The Islamia University of Bahawalpur	Baghdad	Computer System Engineering
NGIRI-2022-15732	'Wall climbing robot for wall surface crack detection'	The Islamia University of Bahawalpur	Baghdad	Electronics Engineering
NGIRI-2022-16205	'IOT BASED BABY MONITORING SYSTEM'	The Islamia University of Bahawalpur	Baghdad	Computer Science
NGIRI-2022-16209	'IOTS PATIENT MONITORING BASED SYSTEM'	The Islamia University of Bahawalpur	Baghdad	Computer Science & IT
NGIRI-2022-16230	'IOTS BASED COTTON DISEASE PREDICTION'	The Islamia University of Bahawalpur	Baghdad	Computer Science & IT
NGIRI-2022-16258	'IOT&€™S BASED MONITORING SYSTEM'	The Islamia University of Bahawalpur	Baghdad	Computer Science & IT
NGIRI-2022-16268	'smart irrigation in tunnel farming using IOT'	The Islamia University of Bahawalpur	Baghdad	Computer System
NGIRI-2022-16489	'Stable and Power-Efficient Multi-hop Approaches for Routing in WSN'	The Islamia University of Bahawalpur	Baghdad	Computer Science
NGIRI-2022-16504	'IOT based Wound care monitoring system'	The Islamia University of Bahawalpur	Baghdad	Computer Science
NGIRI-2022-13371	'RFID based Library Management System'	The Shaikh Ayaz University, Shikarpur Sindh	Main	Computer Science & IT
NGIRI-2022-16028	'Emotion Detection Using Facial Expressions'	The Shaikh Ayaz University, Shikarpur Sindh	Main	Computer Science & IT
NGIRI-2022-12625	'Electronic panel for temperature testing chamber'	The Superior College	University	Avionics/Aeronautical Engineering
NGIRI-2022-12634	'Implementation of Antenna azimuth and elevation control system using MATLAB, Simulink and developing a control system for Ku band (60 cm dish) antenna scaled down physical model.'	The Superior College	University	Avionics/Aeronautical Engineering
NGIRI-2022-12666	'Design and development of cheap hotwire foam cutting machine for aerospace applications'	The Superior College	University	Avionics/Aeronautical Engineering
NGIRI-2022-12670	'Design and Development of Vision Based Smart System via Human Tracking for Indoor Environment'	The Superior College	University	Avionics/Aeronautical Engineering
NGIRI-2022-12682	'Automatic fault Detection,INTIMATION and Tracking in Power Distribution System'	The Superior College	University	Electrical Engineering
NGIRI-2022-12687	'Design and development of a foam/water base deluge sprinkler system'	The Superior College	University	Avionics Engineering
NGIRI-2022-13449	'AI Based Human Emotion Recognition System'	The Superior College	University	Software Engineering
NGIRI-2022-13463	'Robotic Hand'	The Superior College	University	Computer Science & IT
NGIRI-2022-13470	'Assets usage and Tracking using wireless '	The Superior College	University	Computer Science
NGIRI-2022-13713	'Computer Vision Based Smart Slow Learner System'	The Superior College	University	Computer Science & IT
NGIRI-2022-13748	'Thals Scan'	The Superior College	University	Software Engineering
NGIRI-2022-13788	'Time Trek '	The Superior College	University	Software Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-14329	'Development of Intelligently Controlled IoT Based Vertical Farm'	The Superior College	University	Electrical Engineering
NGIRI-2022-14359	'Smart Traffic Solution'	The Superior College	University	Software Engineering
NGIRI-2022-14367	'Nexus Wrist Band'	The Superior College	University	Software Engineering
NGIRI-2022-14392	'Designing a PLC Based HVDC Fault Protection Scheme by using Relaying Algorithm'	The Superior College	University	Electrical Engineering
NGIRI-2022-14512	'Agriculture Tech Solutions'	The Superior College	University	Computer Science & IT
NGIRI-2022-14544	'Locomotion of Gaming'	The Superior College	University	Computer Science
NGIRI-2022-14551	'VR PsychoTherapy'	The Superior College	University	Computer Science
NGIRI-2022-14591	'EverTracker'	The Superior College	University	Computer Science
NGIRI-2022-15203	'3S Auto Dealership'	The Superior College	University	Computer Science
NGIRI-2022-15487	'Advanced Computer Vision based Human Pose Estimation'	The Superior College	University	Electrical Engineering
NGIRI-2022-15673	'Deepfake detection'	The Superior College	University	Computer Science & IT
NGIRI-2022-16004	'Dual Axis Solar Tracking System'	The Superior College	University	Computer Science & IT
NGIRI-2022-13020	'A Controller Design for a Stability Improvement of an Integrated Charging System in Hybrid Electric Vehicle.'	The University of Faisalabad	Engineering Wing	Electrical Engineering
NGIRI-2022-13224	'Lithium ion based Energy storage system with integrated BMS with Active cell Balancing'	The University of Faisalabad	Engineering Wing	Electrical Engineering
NGIRI-2022-14152	'Designing of two axis solar system using Light dependent Resistors for precisely tracking of Sun irradiance and solar panel cleaning'	The University of Faisalabad	Engineering Wing	Electrical Power Engineering
NGIRI-2022-14235	'Smart Attendance and Monitoring System Using Face recognition'	The University of Faisalabad	Engineering Wing	Software Engineering
NGIRI-2022-14710	'Weapon Detection for Smart Surveillance'	The University of Faisalabad	Engineering Wing	Computer System
NGIRI-2022-14724	'Sign Language Recognition Using Dynamic Hand Gestures By Deep Learning'	The University of Faisalabad	Engineering Wing	Computer Science
NGIRI-2022-14732	'Robust Disease Diagnosis System using Fundoscopic Retinal Vessel Segmentation'	The University of Faisalabad	Engineering Wing	Computer Science
NGIRI-2022-14736	'Design and Implementation of Automatic Smart Car Parking System'	The University of Faisalabad	Engineering Wing	Electrical
NGIRI-2022-14739	'Smart MPPT Solar Charge Controller'	The University of Faisalabad	Engineering Wing	Electrical
NGIRI-2022-14741	'IoT based Smart Home Automation System'	The University of Faisalabad	Engineering Wing	Electrical Engineering
NGIRI-2022-14913	'Android based smart cafe table'	The University of Faisalabad	Engineering Wing	Computer Science
NGIRI-2022-14999	'Solar Grass Cutter'	The University of Faisalabad	Engineering Wing	Electrical/Electronics Engineering
NGIRI-2022-15182	'Optimization modelling for MPPT of PV System based on intelligent hybrid algorithms'	The University of Faisalabad	Engineering Wing	Electrical Engineering
NGIRI-2022-15211	'Call Of Cause'	The University of Faisalabad	Engineering Wing	Computer Science
NGIRI-2022-15284	'Driver Drowsiness Detection System using Convolutional Neural Network'	The University of Faisalabad	Engineering Wing	Computer Science
NGIRI-2022-11964	'A Prototype Model for Bionic Eye by Instance Segmentation Technique'	The University of Haripur	Main	Computer Science & IT
NGIRI-2022-12317	'Smart wearing back corset for keeping the fixation surgery patient back straight'	The University of Haripur	Main	Information Technology
NGIRI-2022-12320	'An Interactive System for Pakistan Sign Language for Recognition for Deaf'	The University of Haripur	Main	Information Technology
NGIRI-2022-12638	'Smart Safety Helmet For Coal Miners'	The University of Haripur	Main	Computer Science & IT
NGIRI-2022-12671	'Energy efficient localization and tracking in underwater wireless sensor networks based on real time data of Oceans'	The University of Haripur	Main	Computer Science & IT
NGIRI-2022-12699	'Door automation through face Recognition'	The University of Haripur	Main	Information Technology
NGIRI-2022-13845	'An IOT based System to Keep The Drowsy Driver Awake'	The University of Haripur	Main	Information Technology
NGIRI-2022-16191	'Social distancing analyzing'	The University of Haripur	Main	Computer Science & IT

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## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11211	'Power Generatio Using Piezoelectric Energy Harvesters'	The University of Lahore	Islamabad	Electrical Engineering
NGIRI-2022-12168	'Autonomous Floor Cleaner Robot'	The University of Lahore	Islamabad	Electrical Engineering
NGIRI-2022-13062	'transformer protection and monitoring of load'	The University of Lahore	Islamabad	Electrical Engineering
NGIRI-2022-13063	'Dry Hand-wash using Fog to save Water'	The University of Lahore	Islamabad	Electrical Engineering
NGIRI-2022-13081	'forest fire surveillance system using wireless sensor network'	The University of Lahore	Islamabad	Electrical Engineering
NGIRI-2022-15511	'Smart Aqua Monitoring and Supply System SAMMS'	The University of Lahore	Islamabad	Software Engineering
NGIRI-2022-15728	'DESIGNING THE SOLAR POWERED VAPOUR ABSORPTION REFRIGERATING SYSTEM WITH ECOLOGICAL CYCLE '	The University of Lahore	Islamabad	Mechanical Engineering
NGIRI-2022-15816	'Design and Fabrication of Hybrid Solar Cooker'	The University of Lahore	Islamabad	Mechanical Engineering
NGIRI-2022-15873	'Design and Development of a PCMs based building envelope '	The University of Lahore	Islamabad	Mechanical Engineering
NGIRI-2022-15999	'Design and Fabrication of Energy Efficient Water purifier'	The University of Lahore	Islamabad	Mechanical Engineering
NGIRI-2022-10998	'Drone Location Finder '	The University of Lahore	Main	Computer Science
NGIRI-2022-12864	'IoT based Virtual Doctor Robot'	The University of Lahore	Main	Electrical Engineering
NGIRI-2022-13236	'Demetrac'	The University of Lahore	Main	Software Engineering
NGIRI-2022-13914	'Sketch To Real App'	The University of Lahore	Main	Computer Science & IT
NGIRI-2022-14107	'Handy Restaurant'	The University of Lahore	Main	Computer Science & IT
NGIRI-2022-14320	'Smart Irrigation System'	The University of Lahore	Main	Computer Science & IT
NGIRI-2022-14549	'DubLipz'	The University of Lahore	Main	Computer Science
NGIRI-2022-14558	'Land Mark'	The University of Lahore	Main	Software Engineering
NGIRI-2022-14720	'Well Being Planner'	The University of Lahore	Main	Software Engineering
NGIRI-2022-14777	Emporium Mall - Lost and Found Portal	The University of Lahore	Main	Computer Science & IT
NGIRI-2022-15100	'Book Prism'	The University of Lahore	Main	Computer Science
NGIRI-2022-15141	'E-Product Filtering System'	The University of Lahore	Main	Software Engineering
NGIRI-2022-15196	'Digital Assets Marketplace using Blockchain'	The University of Lahore	Main	Software Engineering
NGIRI-2022-16047	'Exoskeleton Passive Legs for Gait Movement'	The University of Lahore	Main	Electrical Engineering
NGIRI-2022-16070	'Home automation for disabled person using gesture control and artificial intelligence'	The University of Lahore	Main	Electrical Engineering
NGIRI-2022-16180	'Non Custodial Multichain Wallet'	The University of Lahore	Main	Computer Science
NGIRI-2022-16272	'WALGO'	The University of Lahore	Main	Computer Science & IT
NGIRI-2022-16319	'AI SMART DIET CONSULTANT APP'	The University of Lahore	Main	Computer Science
NGIRI-2022-16367	'Design and Implementation of Energy Harvesting System from Gym Exercise Machines'	The University of Lahore	Main	Electrical Engineering
NGIRI-2022-16398	'IOT based fair water distribution for smart city'	The University of Lahore	Main	Electrical Engineering
NGIRI-2022-12571	'Students Track and Report Management System'	The Women University	Katchehry Campus	Computer Science & IT
NGIRI-2022-12964	'Animal Health Monitoring Device'	University of Agriculture	Burewala	Computer Science
NGIRI-2022-13066	'Accident-detection and ambulance-rescue system'	University of Agriculture	Burewala	Computer Science
NGIRI-2022-13070	'Micro Servo Robot'	University of Agriculture	Burewala	Computer Science
NGIRI-2022-11162	'Traceability of pesticides and fertilizers using IoT & Blockchain Technology'	University of Agriculture	Main	Computer Science
NGIRI-2022-11181	Crop Load Estimation	University of Agriculture	Main	Computer Science

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11336	'Detection of Fruit Fly using Intelligent Traps'	University of Agriculture	Main	Computer Science
NGIRI-2022-11394	'Automated Fruit Harvesting Robot'	University of Azad Jammu & Kashmir	Main	Electrical Engineering
NGIRI-2022-11425	'Transparent Charity System Using Blockchain'	University of Azad Jammu & Kashmir	Main	Computer Science
NGIRI-2022-12124	'Intelligent Multifunctional Home Energy Management System using renewable resource'	University of Azad Jammu & Kashmir	Main	Electrical Engineering
NGIRI-2022-12270	'Virtual mouse'	University of Azad Jammu & Kashmir	Main	Computer Science & IT
NGIRI-2022-12947	'Assistive handheld device for visually challenged people'	University of Azad Jammu & Kashmir	Main	Computer Science & IT
NGIRI-2022-13244	'Generating Green Energy by Speed Breaker'	University of Balochistan	Main	Electrical
NGIRI-2022-14354	'Automation Watersystem'	University of Balochistan	Main	Computer Science & IT
NGIRI-2022-14524	'Smart Navigational Blind Stick with Obstacle Detection '	University of Balochistan	Main	Computer Science & IT
NGIRI-2022-14865	'Multipurpose Small unmanned robot: a cost effective approach'	University of Balochistan	Main	Computer Science
NGIRI-2022-14937	'low cost educational smart 3d printer.'	University of Balochistan	Main	Computer Science
NGIRI-2022-15112	'IOT Based Digital Agriculture Monitoring System	University of Balochistan	Main	Computer Science & IT
NGIRI-2022-16118	'Lecture Evaluation in Smart classroom using gestures and Facial expressions'	University of Balochistan	Main	Computer Science
NGIRI-2022-16595	'Self Riding Bike'	University of Balochistan	Main	Computer Science
NGIRI-2022-11092	'Auto Music Generation using Facial Expressions'	University of Central Punjab	Main	Computer Science & IT
NGIRI-2022-11097	'Electric Food Dehydrator'	University of Central Punjab	Main	Electrical Engineering
NGIRI-2022-11098	'Creating 3d models from 2d images'	University of Central Punjab	Main	Computer Science
NGIRI-2022-11099	'Digital Traffic Warden'	University of Central Punjab	Main	Information Technology
NGIRI-2022-11159	'IoT Based Environmental Monitoring System during Transportation'	University of Central Punjab	Main	Electrical Engineering
NGIRI-2022-11164	'Auto Bot'	University of Central Punjab	Main	Computer Science
NGIRI-2022-11233	'Exam cheating detection '	University of Central Punjab	Main	Computer Science & IT
NGIRI-2022-12073	'IMPLEMENTATION OF A ROBUST CONTROLLER BASED SYSTEM FOR INDUSTRIAL APPLICATION.'	University of Central Punjab	Main	Electrical Engineering
NGIRI-2022-12076	'Gesture controlled robotic gripper arm using kinect sensor'	University of Central Punjab	Main	Electrical Engineering
NGIRI-2022-14419	'Autonomous Pick & Place Robot'	University of Central Punjab	Main	Electrical/Electronics Engineering
NGIRI-2022-14935	'Simulation of arrays using AR'	University of Central Punjab	Main	Information Technology
NGIRI-2022-15138	'Solar Panel Cleaning Robot'	University of Central Punjab	Main	Computer Science & IT
NGIRI-2022-15722	'Multiple Voice Separation with Speaker Diarization'	University of Central Punjab	Main	Computer Science
NGIRI-2022-15977	'Solar Wind Hybrid Generator'	University of Central Punjab	Main	Mechanical Engineering
NGIRI-2022-16071	'Design and test an affordable cold room powered by hybrid electric / Solar for improving storage quality and reducing wastage of horticulture produce '	University of Central Punjab	Main	Mechanical Engineering
NGIRI-2022-14620	'Multiclass Non-Invasive Malignant Cells Screening using Ensemble of Deep Neural Networks	University of Education	Faisalabad	Information Technology
NGIRI-2022-15736	'E Child Monitoring App	University of Education	Faisalabad	Information Technology
NGIRI-2022-13987	'Toxic Comment Classification'	University of Education	Joharabad	Information Technology
NGIRI-2022-13992	'Elderly Monitoring Application Through Human Activity Detection'	University of Education	Joharabad	Information Technology
NGIRI-2022-13999	'See Through Me: An Assistive Application for the Blind '	University of Education	Joharabad	Information Technology
NGIRI-2022-14074	'Fake Product Review Detection'	University of Education	Joharabad	Information Technology

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-15104	'Assistive Communication Glove for the paralytic '	University of Education	Joharabad	Information Technology
NGIRI-2022-15556	'Audibook'	University of Education	Joharabad	Computer Science & IT
NGIRI-2022-11502	'AR Glasses Virtual Try on'	University of Education	Multan	Computer Science & IT
NGIRI-2022-11540	'Predicting Student Academic Performance Using Machine Learning Technique'	University of Education	Multan	Computer Science
NGIRI-2022-11854	'Applied Computational Methods for Drug Discovery Based of Protein Compound Dataset'	University of Education	Multan	Information Technology
NGIRI-2022-13248	'Real Time Document Sketching based on 3D Pen Plotter'	University of Education	Multan	Information Technology
NGIRI-2022-14178	'Flower Identification App using Machine Learning'	University of Education	Multan	Information Technology
NGIRI-2022-12706	'Face detection and recognition system for UE students using deep learning techniques'	University of Education	Vehari	Information Technology
NGIRI-2022-10970	'Hybrid Bike '	University of Engineering & Technology, Lahore	Faisalabad	Electrical Engineering
NGIRI-2022-10999	'Fault detection in transmission/distribution lines via GSM '	University of Engineering & Technology, Lahore	Faisalabad	Electrical Engineering
NGIRI-2022-11495	'Smart and Optimized Flour Kneading Machine'	University of Engineering & Technology, Lahore	Faisalabad	Electrical/Electronics Engineering
NGIRI-2022-11523	'Power Generating Treadmill for Large animate prime movers'	University of Engineering & Technology, Lahore	Faisalabad	Electrical
NGIRI-2022-12015	'Evaluating Bio-Anode For Bio energy Production Using Solar-Powered Microbial Electrolisis'	University of Engineering & Technology, Lahore	Faisalabad	Electrical Engineering
NGIRI-2022-12220	'Smart Assistant for Mothers'	University of Engineering & Technology, Lahore	Faisalabad	Electrical/Electronics Engineering
NGIRI-2022-12363	'Eversion Robot'	University of Engineering & Technology, Lahore	Faisalabad	Mechatronics Engineering
NGIRI-2022-12852	'Predictive Maintenance of Power Substation Equipment by Infrared Thermography'	University of Engineering & Technology, Lahore	Faisalabad	Electrical/Electronics Engineering
NGIRI-2022-12853	'Intelligent Control of Induction motor for Electric Vehicle'	University of Engineering & Technology, Lahore	Faisalabad	Electrical/Electronics Engineering
NGIRI-2022-12861	'Walking Assistance Exoskeleton'	University of Engineering & Technology, Lahore	Faisalabad	Electrical/Electronics Engineering
NGIRI-2022-12869	'Voice and Gesture controlled standing wheelchair'	University of Engineering & Technology, Lahore	Faisalabad	Electrical Engineering
NGIRI-2022-12870	'Non invasive Glucometer'	University of Engineering & Technology, Lahore	Faisalabad	Electrical Engineering
NGIRI-2022-13489	'Cable base parallel manipulator for under water environment '	University of Engineering & Technology, Lahore	Faisalabad	Mechatronics Engineering
NGIRI-2022-13878	'Autonomous Underwater Robot'	University of Engineering & Technology, Lahore	Faisalabad	Mechatronics Engineering
NGIRI-2022-15121	'Standing wheelchair with posture transformation capabilities'	University of Engineering & Technology, Lahore	Faisalabad	Mechatronics Engineering
NGIRI-2022-15388	'Disinfecting Omni Directional Mobile Robot with Vision Capabilities'	University of Engineering & Technology, Lahore	Faisalabad	Mechatronics Engineering
NGIRI-2022-11165	'Autonomous Hexapod Design with Gait Free Planning for Rough Terrain'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Electrical Engineering
NGIRI-2022-11276	'Design and Implementation of Reverse Vending Machine using SSD and Deep Learning Algorithms'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Electrical Engineering
NGIRI-2022-11424	'Wireless EV Charging and Docking Station'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Electrical Engineering
NGIRI-2022-11435	'An Unarmed Active Lenz Desalinator'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Electrical Engineering
NGIRI-2022-15499	'Design and development of microwave assisted biodiesel synthesis equipment'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Mechanical Engineering
NGIRI-2022-15614	'Dhabba'	University of Engineering & Technology, Lahore	Kala Shah Kaku	Computer Science
NGIRI-2022-11113	'VRET Diagnosis and Cure using VR'	University of Engineering & Technology, Lahore	Lahore	Computer Engineering
NGIRI-2022-11912	'Human Arthritis Analysis and Prediction using Non Invasive Sensors'	University of Engineering & Technology, Lahore	Lahore	Computer Engineering
NGIRI-2022-12587	'Design Fabrication and Control of a Product Listing Machine'	University of Engineering & Technology, Lahore	Lahore	Mechatronics Engineering
NGIRI-2022-12678	'ADVANCED PCB MANUFACTURING AND AUTOMATION'	University of Engineering & Technology, Lahore	Lahore	Electrical Engineering
NGIRI-2022-12881	'Augmented reality-based programming of robotic Manipulator '	University of Engineering & Technology, Lahore	Lahore	Mechatronics Engineering
NGIRI-2022-13124	'Water Purity Detection App Using Machine Learning'	University of Engineering & Technology, Lahore	Lahore	Computer Science



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NGIRI-2022-13227	'Shape Optimization of Rotor of Flywheel Energy Storage System '	University of Engineering & Technology, Lahore	Lahore	Mechanical Engineering
NGIRI-2022-13308	'Development and Control of 7-DOF Robotic Manipulator'	University of Engineering & Technology, Lahore	Lahore	Mechatronics Engineering
NGIRI-2022-13595	'Smart and Convenient Blood sugar level monitoring'	University of Engineering & Technology, Lahore	Lahore	Computer Engineering
NGIRI-2022-13962	'Prepaid Smart Energy meter with dynamic tariff'	University of Engineering & Technology, Lahore	Lahore	Electrical Engineering
NGIRI-2022-14020	'Robotics Teaching/Training Tool by AR'	University of Engineering & Technology, Lahore	Lahore	Mechatronics Engineering
NGIRI-2022-14061	'Control of Indigenously Developed Five DOF Robotic Manipulator'	University of Engineering & Technology, Lahore	Lahore	Mechatronics Engineering
NGIRI-2022-14379	'Electronic Voting Machine'	University of Engineering & Technology, Lahore	Lahore	Electrical Engineering
NGIRI-2022-14573	'Air Quality Index Monitoring Through IoT and AI'	University of Engineering & Technology, Lahore	Lahore	Electrical Engineering
NGIRI-2022-15074	'Design and Investigation of a four stroke Camless Engines using Programmatically controlled actuators'	University of Engineering & Technology, Lahore	Lahore	Mechanical Engineering
NGIRI-2022-15655	'Suha Teachingster'	University of Engineering & Technology, Lahore	Lahore	Computer Science
NGIRI-2022-11055	'Intelligent Indoor Environment Monitoring and Emergency System for Hospitals'	University of Engineering & Technology, Lahore	Narowal	Biomedical Engineering
NGIRI-2022-11561	'Vision based human tracking and localization for security surveillance'	University of Engineering & Technology, Lahore	Narowal	Electrical
NGIRI-2022-12067	'Real Time Vein Detection System'	University of Engineering & Technology, Lahore	Narowal	Biomedical Engineering
NGIRI-2022-12720	'Development of Low cost Prosthetic Arm'	University of Engineering & Technology, Lahore	Narowal	Biomedical Engineering
NGIRI-2022-14148	'Neural Spikerbox For Low Temperature Areas'	University of Engineering & Technology, Lahore	Narowal	Biomedical Engineering
NGIRI-2022-15566	'Real Time Human Detection Counting and Face Recognition'	University of Engineering & Technology, Lahore	Narowal	Electrical Engineering
NGIRI-2022-15911	'Micro Grid enhancement via the Grid tie Pv-inverters in active distribution Networks'	University of Engineering & Technology, Lahore	Narowal	Electrical
NGIRI-2022-16418	'Design Simulation and Fabrication of Ocean Wave Energy Converter'	University of Engineering & Technology, Lahore	Narowal	Mechanical Engineering
NGIRI-2022-11000	'Effect of Micro Inverter on Different Combinations of Solar Module Efficiency in Shaded and Non-Shaded Conditions '	University of Engineering & Technology, Lahore	RCET Gujranwala	Electrical Engineering
NGIRI-2022-11313	'Development of Real-Time Condition Monitoring and Fault Identification for Three Phase Induction Motor'	University of Engineering & Technology, Lahore	RCET Gujranwala	Electrical Engineering
NGIRI-2022-11319	'Autonomous Solar Grass Cutter'	University of Engineering & Technology, Lahore	RCET Gujranwala	Electrical Engineering
NGIRI-2022-13353	'Design and development of Heat Sinks for high speed microprocessor based on nano-fluid'	University of Engineering & Technology, Lahore	RCET Gujranwala	Mechanical Engineering
NGIRI-2022-13796	'Experimental investigation and Application of ANN to predict performance and emissions of SI engine using gasoline-propanol blends'	University of Engineering & Technology, Lahore	RCET Gujranwala	Mechanical Engineering
NGIRI-2022-10980	'Artificial Intelligence Based Security Robot '	University of Engineering & Technology, Peshawar	Abbottabad	Electronics Engineering
NGIRI-2022-13727	'Cascade Inverters for High Power Switching Amplifier'	University of Engineering & Technology, Peshawar	Abbottabad	Electronics Engineering
NGIRI-2022-13751	'Design and Development of Antenna Array with improved performance for 5G smartphone Applications'	University of Engineering & Technology, Peshawar	Abbottabad	Electronics Engineering
NGIRI-2022-11021	'Solar Tracking and Smart Cleaning System'	University of Engineering & Technology, Peshawar	Bannu	Electrical Engineering
NGIRI-2022-11032	'Hardware Implementation of Isolated Input Series Output Parallel (I-ISOP) DC-DC Converter'	University of Engineering & Technology, Peshawar	Bannu	Electrical Engineering
NGIRI-2022-11314	'Solarization of Academic block in UET Bannu campus '	University of Engineering & Technology, Peshawar	Bannu	Electrical Engineering
NGIRI-2022-11002	'Design and Fabrication of advance forklift truck model for material handling system'	University of Engineering & Technology, Peshawar	Jalozai	Industrial Electronics
NGIRI-2022-11058	IoT based e-bike with Intelligent Traction Drive System with longer drive range	University of Engineering & Technology, Peshawar	Jalozai	Computer Science & IT
NGIRI-2022-11260	'DESIGN AND FABRICATION OF SELF SUSTAINED WATER PUMP'	University of Engineering & Technology, Peshawar	Jalozai	Mechanical Engineering
NGIRI-2022-11400	'Driver's cell phone usage monitoring in a moving vehicle'	University of Engineering & Technology, Peshawar	Jalozai	Electrical Engineering
NGIRI-2022-11851	'Identification of wheat plant diseases using Computer Vision technique '	University of Engineering & Technology, Peshawar	Jalozai	Electrical Engineering
NGIRI-2022-12392	'Implementation of 5G Architecture through Passive Optical Network '	University of Engineering & Technology, Peshawar	Jalozai	Electrical Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13137	'DESIGN OF DATA ACQUISITION SYSTEM FOR ELECTRIC BIKES TO DEVELOP DRIVE CYCLE FOR PESHAWAR '	University of Engineering & Technology, Peshawar	Jalozai	Electrical Engineering
NGIRI-2022-13628	'Portable Ventilator Version Two'	University of Engineering & Technology, Peshawar	Jalozai	Electrical Engineering
NGIRI-2022-15058	'Plastic Roads'	University of Engineering & Technology, Peshawar	Jalozai	Engineering and Sciences
NGIRI-2022-11029	'Air to Energy using Logicized system'	University of Engineering & Technology, Peshawar	Peshawar	Computer System Engineering
NGIRI-2022-11284	'Air Writing Detection & Recognition Using Deep Learning'	University of Engineering & Technology, Peshawar	Peshawar	Electrical Engineering
NGIRI-2022-11432	'Intelligent Weighing Scale For Fruits and Veggies Mart'	University of Engineering & Technology, Peshawar	Peshawar	Electrical Engineering
NGIRI-2022-11511	'Smart Milk Packaging Machine'	University of Engineering & Technology, Peshawar	Peshawar	Mechatronics Engineering
NGIRI-2022-12644	'Under Water Communication through Visible Light'	University of Engineering & Technology, Peshawar	Peshawar	Electrical Engineering
NGIRI-2022-13031	'Design Analysis and Fabrication of Wrist Orthosis Using Fused Deposition Modelling'	University of Engineering & Technology, Peshawar	Peshawar	Industrial Electronics
NGIRI-2022-13052	'Implementation of Takt Time to Improve workflow in small and medium industries'	University of Engineering & Technology, Peshawar	Peshawar	Industrial Electronics
NGIRI-2022-13255	'Design and Fabrication of 3D Bioprinter '	University of Engineering & Technology, Peshawar	Peshawar	Mechatronics Engineering
NGIRI-2022-13482	'IoT based Smart Autonomous Robot for disinfection applications '	University of Engineering & Technology, Peshawar	Peshawar	Computer System Engineering
NGIRI-2022-14835	'Face Mask Based Automatic Door System to ensure COVID-19 Precautionary Measures'	University of Engineering & Technology, Peshawar	Peshawar	Computer System Engineering
NGIRI-2022-15554	'DESIRED VOLTAGE AND FREQUENCY ON ADJUSTMENT FROM MINI PLUG AND PLAY GRID'	University of Engineering & Technology, Peshawar	Peshawar	Electrical Power Engineering
NGIRI-2022-11020	'The Crypto Trade Bot '	University of Engineering & Technology, Taxila	Taxila	Computer Engineering
NGIRI-2022-11129	'PLC based Automation design of an industrial process. Water Treatment Plant'	University of Engineering & Technology, Taxila	Taxila	Electronics Engineering
NGIRI-2022-11889	' Design of Plant Watering Autonomous Mobile Robot Solution for indoor environments'	University of Engineering & Technology, Taxila	Taxila	Electronics Engineering
NGIRI-2022-12037	'IoT Based Control and Monitoring System for Off-Seasonal Plantation'	University of Engineering & Technology, Taxila	Taxila	Electrical Engineering
NGIRI-2022-12224	'Real-time Replayed Audio Detection voice-Bot'	University of Engineering & Technology, Taxila	Taxila	Software Engineering
NGIRI-2022-12319	'Energy Recovery Using Regenerative Suspension System'	University of Engineering & Technology, Taxila	Taxila	Electrical
NGIRI-2022-12338	'Reliable Engine Test Bed for Diagnostic and Analysis'	University of Engineering & Technology, Taxila	Taxila	Mechanical Engineering
NGIRI-2022-12597	'PRODUCT HUNT Let Me Hunt You a Product'	University of Engineering & Technology, Taxila	Taxila	Computer Engineering
NGIRI-2022-12656	'Design and Implementation of Compressed Air Energy Storage System CAES'	University of Engineering & Technology, Taxila	Taxila	Electrical Engineering
NGIRI-2022-12811	'Automatic Bottle Filling and Capping System using PLC and HMI'	University of Engineering & Technology, Taxila	Taxila	Electronics Engineering
NGIRI-2022-13523	'uGO'	University of Engineering & Technology, Taxila	Taxila	Computer Engineering
NGIRI-2022-13732	'Draw to Move'	University of Engineering & Technology, Taxila	Taxila	Computer Engineering
NGIRI-2022-14144	'Acoustic Sensor based CardioPulmo Monitoring System'	University of Engineering & Technology, Taxila	Taxila	Electronics Engineering
NGIRI-2022-14607	'Real-time Vision System for Driver-assistance'	University of Engineering & Technology, Taxila	Taxila	Electronics
NGIRI-2022-14918	'Development of Game based on Gesture Controls'	University of Engineering & Technology, Taxila	Taxila	Computer Engineering
NGIRI-2022-16088	'Autonomous mobile robot'	University of Engineering & Technology, Taxila	Taxila	Mechatronics Engineering
NGIRI-2022-16460	'AN FPGA BASED SOC DESIGN FOR AN AUTONOMOUS VEHICLE'	University of Engineering & Technology, Taxila	Taxila	Electronics Engineering
NGIRI-2022-11545	'Geothermal Energy for Conditioning of air space '	University of Engineering & Technology, Mardan	Mardan	Electrical Engineering
NGIRI-2022-11859	'Design of Voltage Regulator for armoured personnel carrier '	University of Engineering & Technology, Mardan	Mardan	Electrical Engineering
NGIRI-2022-12265	'Electric heating furnace upgradation through modern heating elements'	University of Engineering & Technology, Mardan	Mardan	Electrical Power Engineering
NGIRI-2022-12820	'Conversion of Analog Gauges/Instruments for Armored Personnel Carriers (APCs)/ Self-Propelled (SP) Guns'	University of Engineering & Technology, Mardan	Mardan	Telecom Engineering
NGIRI-2022-14284	'Waseela:Every Good Act Counts'	University of Engineering & Technology, Mardan	Mardan	Computer Engineering

# National Grassroots ICT Research Initiative (NGIRI) 2021-22

## Provisional List of FYPs--Shortlisted for Funding

(Note: All disbursements will be made only after verified expenditure reports submitted by focal persons)

FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-14572	'Electricity Generation Through Vehicle Speed Breaker'	University of Engineering & Technology, Mardan	Mardan	Electrical Power Engineering
NGIRI-2022-14574	'UPGRADATION OF POWER SUPPLY OF INDUCTION HARDENING MACHINE'	University of Engineering & Technology, Mardan	Mardan	Electrical Power Engineering
NGIRI-2022-15073	'Metamaterial based wearable antenna for body area network '	University of Engineering & Technology, Mardan	Mardan	Telecom Engineering
NGIRI-2022-12185	'Smog Free Tower'	University of Gujrat	Hafiz Hayat	Electrical Engineering
NGIRI-2022-12618	'Trajectory Planning and Control of Serial Linked Robotic Arm for Fruit Picking Robot using Reinforcement Learning'	University of Gujrat	Hafiz Hayat	Electrical Engineering
NGIRI-2022-12755	'Intellitutor-Smart IELTS App'	University of Gujrat	Hafiz Hayat	Computer Science & IT
NGIRI-2022-13522	'Blockchain based E certification'	University of Gujrat	Hafiz Hayat	Computer Science & IT
NGIRI-2022-15291	'Automated petrol pump using RFID Technology'	University of Gujrat	Hafiz Hayat	Electrical Engineering
NGIRI-2022-16208	'Design of Temperature Controller and Development of Evacuated Glass Tubes Based Solar Water Heater'	University of Gujrat	Hafiz Hayat	Electrical Engineering
NGIRI-2022-16391	'Development of Mechanism for Humanoid Robot Eyes-Head Coordinated Movements '	University of Gujrat	Hafiz Hayat	Electrical Engineering
NGIRI-2022-12654	'ECO Bike - An Eco friendly Smart E-Bike For Campus'	University of Karachi	Main	Electronics
NGIRI-2022-13401	'Automatic Temperature Detection System for Entrance'	University of Kotli	Main Campus	Computer Science & IT
NGIRI-2022-13936	'Smart Water Billing Management System'	University of Kotli	Main Campus	Computer Science & IT
NGIRI-2022-14795	'QEC Student Portal '	University of Kotli	Main Campus	Software Engineering
NGIRI-2022-13374	'Emotion Classification using EEG signals'	University of Malakand	Chakdara	Software Engineering
NGIRI-2022-14479	'Raspberry Pi Based Vehicle Starter on Face Detection '	University of Malakand	Chakdara	Software Engineering
NGIRI-2022-14569	'IOT based Realtime Smart Health Assistant'	University of Malakand	Chakdara	Software Engineering
NGIRI-2022-15159	'Women Safety Application'	University of Malakand	Chakdara	Software Engineering
NGIRI-2022-16143	'Water Quality and Quantity Monitoring system using IOT'	University of Malakand	Chakdara	Software Engineering
NGIRI-2022-11189	'Voice Control Wheel Chair for Visually Impaired Person'	University of Management and Technology	Lahore	Electrical Engineering
NGIRI-2022-12068	'Robotic arm with controlled gestures using IOT'	University of Management and Technology	Lahore	Electrical Engineering
NGIRI-2022-13768	'Pick and Place Gripper Arm with Conveyor Belt'	University of Management and Technology	Lahore	Computer Science
NGIRI-2022-13772	'Table Tennis AI Referee'	University of Management and Technology	Lahore	Science & Technology
NGIRI-2022-13858	'Smart Survey'	University of Management and Technology	Lahore	Science & Technology
NGIRI-2022-14177	'Power Mixing'	University of Management and Technology	Lahore	Electrical Engineering
NGIRI-2022-14305	'Safer Transport Electric Link STEL'	University of Management and Technology	Lahore	Software Engineering
NGIRI-2022-14757	'Election Prediction Using Social Media through Sentiment Analysis'	University of Management and Technology	Lahore	Computer Science
NGIRI-2022-15218	'CESP based autonomous drone for the delivery of medicine and human organs'	University of Management and Technology	Lahore	Electrical Engineering
NGIRI-2022-15288	'Industrial Smart Camera'	University of Management and Technology	Lahore	Computer Science
NGIRI-2022-15881	'Electric bicycle with Semi-Automatic Braking System.'	University of Management and Technology	Lahore	Mechanical Engineering
NGIRI-2022-15887	'Autonomous Indoor Robot'	University of Management and Technology	Lahore	Electrical Engineering
NGIRI-2022-12602	'A collaborative intelligence framework for smart campus; the case of disastrous situation'	University of Management and Technology	Sialkot	Computer Science & IT
NGIRI-2022-13741	'Realtime face and mask detector using TensorFlow '	University of Management and Technology	Sialkot	Computer Science & IT
NGIRI-2022-14520	'Mask Detection Based Door Control Using Deep Learning for the Prevention of COVID'	University of Management and Technology	Sialkot	Electrical Engineering
NGIRI-2022-14674	'Design and Development of Net-Metering based Energy Meter'	University of Management and Technology	Sialkot	Electrical Engineering
NGIRI-2022-14879	'Design of Universal Robotic Manipulator'	University of Management and Technology	Sialkot	Electrical Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-11886	'Smart Attendance System using Facial Recognition and Fingerprint scanning'	University of Narawal	Main	Computer Science
NGIRI-2022-14188	'Solar Powered Smart Weather Station'	University of Peshawar	Peshawar	Electronics
NGIRI-2022-14190	'Optimized MPPT Based Pure Sine Wave Solar Inverter'	University of Peshawar	Peshawar	Electronics
NGIRI-2022-15118	'Robotic Arm'	University of Peshawar	Peshawar	Electronics
NGIRI-2022-15957	'App, gesture and voice controlled drone'	University of Peshawar	Peshawar	Electronics
NGIRI-2022-12286	'Modern Eye'	University of Sargodha	Main	Computer Science & IT
NGIRI-2022-15264	'FPS Game for Relaxing Mental Health and Trick for Kids Learning'	University of Sargodha	Main	Computer Science & IT
NGIRI-2022-15846	'Driver Drowsiness Alarm System'	University of Sargodha	Main	Computer Science & IT
NGIRI-2022-16064	'Personality prediction through CV analysis using ML'	University of Sargodha	Main	Computer Science & IT
NGIRI-2022-16067	'Controlled Agricultural robotic system'	University of Sargodha	Main	Electrical Engineering
NGIRI-2022-16081	'Sign language system'	University of Sargodha	Main	Computer Science & IT
NGIRI-2022-11278	'Understanding and Detecting fake reviews of Google Play store applications'	University of Science & Technology	Main	Software Engineering
NGIRI-2022-11927	'IoT based Energy theft detection and Pole to Pole theft location Identification'	University of Science & Technology	Main	Electrical Engineering
NGIRI-2022-13181	'Mitigate Security Risks using Serious Gaming: A Case study with UST Bannu'	University of Science & Technology	Main	Software Engineering
NGIRI-2022-13502	'An Optimized Machine Learning Approach for MRI Brain Image classification'	University of Science & Technology	Main	Software Engineering
NGIRI-2022-11646	'IOT Based A smart device for air pollution monitoring stations '	University of Sialkot, Sialkot	Sialkot	Computer Science & IT
NGIRI-2022-11772	'Real-time Implementation of a Smart IOT-Based Driver Drowsiness Detection System for Accident Prevention'	University of Sialkot, Sialkot	Sialkot	Computer Science & IT
NGIRI-2022-11812	'Agricultural Drone'	University of Sialkot, Sialkot	Sialkot	Information Technology
NGIRI-2022-11915	'Soil testing Agriculture for long term optimization of yield Management Systems by using Machine Learning Algorithm'	University of Sialkot, Sialkot	Sialkot	Computer Science
NGIRI-2022-12034	'IoT based Fire Alarm Navigation System'	University of Sialkot, Sialkot	Sialkot	Computer Science & IT
NGIRI-2022-12473	'Animal Tracking'	University of Sialkot, Sialkot	Sialkot	Computer Science
NGIRI-2022-12692	'SMART SOIL IRRIGATION SYSTEM'	University of Sialkot, Sialkot	Sialkot	Information Technology
NGIRI-2022-13930	'use of zigbee technology for Air Pollution '	University of Sialkot, Sialkot	Sialkot	Information Technology
NGIRI-2022-16132	'Autonomous Vehicle Prototype'	University of Sialkot, Sialkot	Sialkot	Information Technology
NGIRI-2022-11101	'Leap Motion Based Robotic Arm'	University of Sindh	Allama I.I Kazi	Telecom Engineering
NGIRI-2022-11178	'Blind Assistant Smart Cap via Mobile App'	University of Sindh	Allama I.I Kazi	Electronics Engineering
NGIRI-2022-11780	'VR based learning game for Dislexia children'	University of Sindh	Allama I.I Kazi	Computer Science
NGIRI-2022-12778	'AI-based Smart Mirror as Health and beauty Assistant'	University of Sindh	Allama I.I Kazi	Software Engineering
NGIRI-2022-12941	'Home Automation using Augmented Reality (HAAR)'	University of Sindh	Allama I.I Kazi	Computer Science
NGIRI-2022-12965	'SMARTPHONE BASED AUGMENTED REALITY'	University of Sindh	Allama I.I Kazi	Computer Science
NGIRI-2022-13090	'Smart Emergency Security System'	University of Sindh	Allama I.I Kazi	Information Technology
NGIRI-2022-13148	'New Generation E-Library equipped with Augmented Reality'	University of Sindh	Allama I.I Kazi	Computer Science & IT
NGIRI-2022-13344	'Hand assisting device for deaf and mute people'	University of Sindh	Allama I.I Kazi	Telecom Engineering
NGIRI-2022-13392	'IOT Based Smart Walking Stick with Image Processing'	University of Sindh	Allama I.I Kazi	Electronics
NGIRI-2022-13488	'IOT based Anti-theft Flooring System using Raspberry Pi'	University of Sindh	Allama I.I Kazi	Computer Science & IT
NGIRI-2022-13919	'IOT Heart Attack Detection & Heart Rate Monitor'	University of Sindh	Allama I.I Kazi	Electrical/Electronics Engineering

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## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-14288	'intelligent escalator passenger safety management'	University of Sindh	Allama I.I Kazi	Software Engineering
NGIRI-2022-14323	'ELECTRIC VEHICLE'	University of Sindh	Allama I.I Kazi	Electronics Engineering
NGIRI-2022-14376	'Robot Controlled by Human Gestures'	University of Sindh	Allama I.I Kazi	Electronics Engineering
NGIRI-2022-14457	'Vehicle Number Plate Recognition and Parking System'	University of Sindh	Allama I.I Kazi	Information Technology
NGIRI-2022-14481	'Automated Toll Collection System using RFID'	University of Sindh	Allama I.I Kazi	Electronics Engineering
NGIRI-2022-14647	'Car Tracking System'	University of Sindh	Allama I.I Kazi	Telecom Engineering
NGIRI-2022-14851	'SMART GLASSES ASSISTANT'	University of Sindh	Allama I.I Kazi	Software Engineering
NGIRI-2022-15227	'Home Automation System Design And Implementation Based On GLOWPAN'	University of Sindh	Allama I.I Kazi	Software Engineering
NGIRI-2022-15289	'Blockchain based supply chain management platform'	University of Sindh	Allama I.I Kazi	Computer & Information System Engineering
NGIRI-2022-15425	'Osmoregulatory Watch'	University of Sindh	Allama I.I Kazi	Biomedical Engineering
NGIRI-2022-15856	'Solar Energy Based Smartly Controllable Water Geyser'	University of Sindh	Allama I.I Kazi	Electronics
NGIRI-2022-15893	'Smart E Glasses For Voltage Measurement'	University of Sindh	Allama I.I Kazi	Electronics
NGIRI-2022-15894	'Fingerprint Based Exam Hall Authentication'	University of Sindh	Allama I.I Kazi	Information Technology
NGIRI-2022-16131	'Water Pollution Monitoring RC Boat'	University of Sindh	Allama I.I Kazi	Electronics Engineering
NGIRI-2022-16226	'IOT Streetlight Controller System '	University of Sindh	Allama I.I Kazi	Telecom Engineering
NGIRI-2022-16366	'Adaptive deep learning for head and neck cancer detection using hyperspectral imaging.'	University of Sindh	Allama I.I Kazi	Electronics
NGIRI-2022-16402	'Self Driving Car Prototype'	University of Sindh	Allama I.I Kazi	Software Engineering
NGIRI-2022-16510	'Covid-19 Detection Using AI'	University of Sindh	Allama I.I Kazi	Electronics
NGIRI-2022-16550	'SMART IRRIGATION SYSTEM USING IOT'	University of Sindh	Allama I.I Kazi	Biomedical Engineering
NGIRI-2022-16614	'IoT Based Baby Monitoring System Using Raspberry Pi'	University of Sindh	Allama I.I Kazi	Information Technology
NGIRI-2022-16637	'IOT Smart Mirror With News & Temperature'	University of Sindh	Allama I.I Kazi	Electrical Engineering
NGIRI-2022-12983	'Automatic Solar Tracking System'	University of Sindh	Mirpur Khas	Computer Science
NGIRI-2022-12278	'Autism Detection through Computer Vision'	University of South Asia	Cantt	Computer Science
NGIRI-2022-12306	'BillinGard'	University of South Asia	Cantt	Computer Science
NGIRI-2022-13068	'Human Following Robot'	University of Sufism and Modern Sciences, Bhitshah Sindh	Main	Information Technology
NGIRI-2022-13106	'Computer Vision Attendance System'	University of Swat	Main	Computer Science & IT
NGIRI-2022-15760	'MUTATIONAL ANALYSIS OF SARS-COV-2 ORF6 AND ITS EFFECT ON EVASION OF HUMAN IMMUNE SYSTEM: A MOLECULAR DOCKING AND SIMMULATION APPROACHES'	University of Swat	Main	Bio-Informatics
NGIRI-2022-15823	'Bioinformatic analysis and pharmacological properties of porphyrine and some of its derivatives'	University of Swat	Main	Bio-Informatics
NGIRI-2022-13734	Advance Intelligent Home Assistant System Using IoT	University of Technology Nowshera (Shuhada-e-APS)	Main	Information Technology
NGIRI-2022-14192	'Design and development of a lightweight 3D printer with a controlled heating Mechanism'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electronics Engineering
NGIRI-2022-14860	'Underground sewage crawler'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electrical Engineering
NGIRI-2022-14967	'Road side battery charging system for street lights'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electrical
NGIRI-2022-15047	'Design and Prototyping of a Energy Efficient Eggs Incubator'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electrical
NGIRI-2022-15146	'RFID AND FINGER PRINT( Biometric) BASED ATTENDANCE SYSTEM'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electronics Engineering
NGIRI-2022-15346	'Design and implementation of solar and wind based portable mobile/laptop charging unit'	University of Technology Nowshera (Shuhada-e-APS)	Main	Electrical Engineering

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## Provisional List of FYPs--Shortlisted for Funding

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-12859	'Algorithm visualizer '	University of the Poonch	Main	Computer Science & IT
NGIRI-2022-12931	'Intelligent Intrusion Detection System'	University of the Poonch	Main	Computer Science & IT
NGIRI-2022-12951	'Smart insurance using crypto policy '	University of the Poonch	Main	Computer Science & IT
NGIRI-2022-12954	'Link'	University of the Poonch	Main	Computer Science & IT
NGIRI-2022-13013	'Twitter sentiment analysis '	University of the Poonch	Main	Computer Science & IT
NGIRI-2022-15879	'OpenStack Private cloud virtualization Technology'	University of Turbat	Main	Computer Science
NGIRI-2022-16138	'Next word prediction in Balochi'	University of Turbat	Main	Computer Science
NGIRI-2022-11585	'Intelligent Health Control Security Robot'	University of Wah	Quaid	Computer Science
NGIRI-2022-11634	'Ethical Hacking Tools Techniques and Practices'	University of Wah	Quaid	Computer Science
NGIRI-2022-11658	'College Inquiry Chatbot'	University of Wah	Quaid	Computer Science
NGIRI-2022-11785	'A Real-Time Application FOR Removal of Non-Brain Tissues from MRI Images'	University of Wah	Quaid	Computer Science
NGIRI-2022-11823	'Pet connect'	University of Wah	Quaid	Computer Science
NGIRI-2022-11590	'Design Fabrication and Control of a Multi Fingered Prosthetic Hand'	University of Wah	Wah Engineering College	Mechanical Engineering
NGIRI-2022-11608	'Design Fabrication and control of a stair climbing wheelchair phase III'	University of Wah	Wah Engineering College	Mechanical Engineering
NGIRI-2022-11617	'Design Development and Control of a Hybrid Bicycle'	University of Wah	Wah Engineering College	Mechanical Engineering
NGIRI-2022-11696	'Design and Development of an Economic Gas Geysers '	University of Wah	Wah Engineering College	Mechanical Engineering
NGIRI-2022-11703	'Design And Fabrication of battery Electric Vehicle '	University of Wah	Wah Engineering College	Mechanical Engineering
NGIRI-2022-11742	'Design and fabrication of automatic seed sowing robot'	University of Wah	Wah Engineering College	Mechatronics Engineering
NGIRI-2022-11814	'Geometric Parameters Measurement of Optical Fiber by Image Processing'	University of Wah	Wah Engineering College	Mechatronics Engineering
NGIRI-2022-11963	'Design and Development of sign to speech and text system for dumb people using smart glove '	University of Wah	Wah Engineering College	Electrical Engineering
NGIRI-2022-12017	'Design and development of IOT based transformer health monitoring system '	University of Wah	Wah Engineering College	Electrical Engineering
NGIRI-2022-12074	'Design and Implementation of Artificial Human Arm Driven by EMG Signal'	University of Wah	Wah Engineering College	Electrical Engineering
NGIRI-2022-12188	'Design and Development of an automatic load Scheduling and Shutdown system'	University of Wah	Wah Engineering College	Electrical Engineering
NGIRI-2022-11255	'PLC and SCADA based intelligent Load Shedding Management '	Usman Institute of Technology	Karachi	Electrical Power Engineering
NGIRI-2022-11277	'Smart Cafe Dine In System'	Usman Institute of Technology	Karachi	Electrical Engineering
NGIRI-2022-11281	'Smart SOP Gate'	Usman Institute of Technology	Karachi	Electrical Engineering
NGIRI-2022-11399	'AI Based Anomaly Detection and Threat Prevention'	Usman Institute of Technology	Karachi	Computer Science
NGIRI-2022-11643	'Smart Load Management System'	Usman Institute of Technology	Karachi	Electrical/Electronics Engineering
NGIRI-2022-12127	'Power Generation Through Run-off River'	Usman Institute of Technology	Karachi	Electrical Power Engineering
NGIRI-2022-12203	'Code your Bot (Early Childhood Education Toy)	Usman Institute of Technology	Karachi	Electrical/Electronics Engineering
NGIRI-2022-12496	'Crop Monitoring and Smart Irrigation System '	Usman Institute of Technology	Karachi	Computer System Engineering
NGIRI-2022-12642	'AIR TO WATER GENERATOR AND DISPENSER'	Usman Institute of Technology	Karachi	Electrical/Electronics Engineering
NGIRI-2022-13265	'Virtual Dressing Room'	Usman Institute of Technology	Karachi	Electrical Engineering
NGIRI-2022-13535	'Face and License Plate Recognition System '	Usman Institute of Technology	Karachi	Telecom Engineering
NGIRI-2022-13576	'Smart Logistics'	Usman Institute of Technology	Karachi	Electrical Engineering
NGIRI-2022-13579	'Power Factor Correction by using STATCOM'	Usman Institute of Technology	Karachi	Electrical Power Engineering

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FYP Code	FYP Title	University	Campus	Department
NGIRI-2022-13848	'Artificial Intelligence Based Heterogeneous Network For Threat Analysis'	Usman Institute of Technology	Karachi	Electrical Engineering
NGIRI-2022-14151	'Rotten fruit detection and sorting using OpenCV'	Usman Institute of Technology	Karachi	Computer System Engineering
NGIRI-2022-14206	Fast Charger for Electric Vehicle	Usman Institute of Technology	Karachi	Electrical/Electronics Engineering
NGIRI-2022-14371	'Wireless Remote Queue Management Systemm'	Usman Institute of Technology	Karachi	Electrical/Electronics Engineering
NGIRI-2022-14383	Boiler Inspection and testing using Eddy Current Probe (NDT)'	Usman Institute of Technology	Karachi	Electronics Engineering
NGIRI-2022-14638	'Dynamic Reactive Power Compensator'	Usman Institute of Technology	Karachi	Electrical Power Engineering
NGIRI-2022-14791	'Automated Tutor'	Usman Institute of Technology	Karachi	Computer Science
NGIRI-2022-14801	'Cervical Deformity Identification'	Usman Institute of Technology	Karachi	Computer Science
NGIRI-2022-14803	'VR Game ZOOMBITE'	Usman Institute of Technology	Karachi	Software Engineering
NGIRI-2022-15017	'Virtual Sign Language Teacher'	Usman Institute of Technology	Karachi	Software Engineering
NGIRI-2022-15040	'Automated News Reporting Channel'	Usman Institute of Technology	Karachi	Computer Science
NGIRI-2022-15042	'Handwritten Urdu Script Recognition Using Deep Learning'	Usman Institute of Technology	Karachi	Computer Science & IT
NGIRI-2022-15129	'Hybrid shopping assistant '	Usman Institute of Technology	Karachi	Software Engineering
NGIRI-2022-15149	'Handwritten to text transformation of math equation for better search experience '	Usman Institute of Technology	Karachi	Software Engineering
NGIRI-2022-15177	'SoCNow'	Usman Institute of Technology	Karachi	Computer Science
NGIRI-2022-15201	'Linkly'	Usman Institute of Technology	Karachi	Software Engineering
NGIRI-2022-12676	'IOT Based Smart Vending Machine'	Women University AJK	Main	Computer Science & IT
NGIRI-2022-13053	'Online Tailoring Management system for women'	Women University AJK	Main	Computer Science
NGIRI-2022-13209	'Vehicle Record System Using Block Chain'	Women University AJK	Main	Computer Science & IT
NGIRI-2022-13302	'Intelligent Dyslexia Detection and Prevention Application'	Women University AJK	Main	Computer Science & IT
NGIRI-2022-13521	'Voice based security system'	Women University AJK	Main	Computer Science & IT
NGIRI-2022-13687	'Effective Human Emotion Detection for Health Care Industry'	Women University AJK	Main	Computer Science & IT
NGIRI-2022-11160	'Building Management System'	Ziauddin University, ZUFEST	North Nazimabad	Electrical
NGIRI-2022-11548	'Assessment of in vitro antibacterial activity of different variants of Pakistani honey against clinical pathogens'	Ziauddin University, ZUFEST	North Nazimabad	Biomedical Engineering
NGIRI-2022-11949	'DEFECTS IN DNA REPAIR GENES AND THEIR ASSOCIATION WITH SUSCEPTIBILITY OF AGE-RELATED CATARACT'	Ziauddin University, ZUFEST	North Nazimabad	Biomedical Engineering
NGIRI-2022-12789	'PLC and IOT Based Monitoring and Controlling of Power Transformer '	Ziauddin University, ZUFEST	North Nazimabad	Electrical
NGIRI-2022-12972	'IOT Based Monitoring and Controlling of Three Phase Induction Motor'	Ziauddin University, ZUFEST	North Nazimabad	Electrical/Electronics Engineering
NGIRI-2022-14008	'Single Phase Inverter Using SPWM Switching Technique'	Ziauddin University, ZUFEST	North Nazimabad	Electrical Engineering
NGIRI-2022-14301	'IOT BASED MONITORING AND CONTROLLING OF A BIOGAS PLANT'	Ziauddin University, ZUFEST	North Nazimabad	Electrical Power Engineering
NGIRI-2022-14441	'REMOTELY TRIP THE CIRCUIT BREAKER AND DROP THE D/O CUT-OUTS LINKS'	Ziauddin University, ZUFEST	North Nazimabad	Electrical Engineering
NGIRI-2022-15248	'Antimicrobial potential of phytochemicals against biofilm forming food bone pathogens'	Ziauddin University, ZUFEST	North Nazimabad	Biomedical Engineering
NGIRI-2022-16097	'Utilization of horticulture waste for antimicrobial activity'	Ziauddin University, ZUFEST	North Nazimabad	Biomedical Engineering

Total FYPs  
Shortlisted

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