Aamir Ali

Electronic Engineering | Embedded Systems and Edge AI

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Research interests

Embedded intelligence, accessible assistive technology, edge AI deployment, industrial sensing and diagnostics, and robotics/control.

Education

Mehran University of Engineering and Technology, Jamshoro
Bachelor of Engineering in Electronic Engineering | December 2025
CGPA: 2.91/4.00 | Medium of instruction: English

Selected results: A+ in Electronic Engineering Project I and II; A+ in Mechatronics Systems & Applications; B+ in Embedded Systems Design theory; A in Artificial Intelligence practical.

Selected technical projects

Braille Learning with Generative AI and Edge AI | Final year project
October 2024 - November 2025 | NVIDIA Jetson platforms

- Contributed to an offline Braille tutoring project combining generative AI and edge computing, with voice and image-based interaction.
- Worked on hardware/software integration across Jetson platforms.
- Project received EPICS in IEEE funding and second place at the 2025 departmental FYP exhibition.

RefriScan refrigerator diagnostics and PCBA testing
April - September 2026 | ESP32-S3, UART, I2C, Node-RED

- Developed an embedded diagnostic platform during the Dawlance graduate traineeship, supporting control-card testing and fault identification.
- Worked on UART telemetry decoding, equipment-state monitoring and wireless data transfer to Node-RED for diagnostics and service-mode control.

IoT health monitoring and alert system
March - May 2024 | ESP8266, ThingSpeak, MicroPython

- Built a prototype for collecting and transmitting temperature and heartbeat measurements for remote monitoring.

Technical skills

Programming: Python, C++, Embedded C, MicroPython, Assembly
Platforms: NVIDIA Jetson, ESP32/ESP8266, Arduino, Xilinx FPGA
Integration: UART, I2C, Node-RED, Modbus, PLC ladder logic, TIA Portal
Tools: TensorFlow, MATLAB/Simulink, Proteus, NI Multisim, LabVIEW, Xilinx ISE, LaTeX

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Experience and academic service

Professional experience

Dawlance (Beko), URIL Plant, Hyderabad
Graduate Engineer Trainee under PEC | April - September 2026

- Supported PLC and Modbus work in the advanced cooling lab and developed embedded solutions for PCBA testing and refrigerator diagnostics.

Isra Foundation Schools, Hyderabad
Robotics Instructor | February - March 2026

- Taught robotics and STEAM through LEGO Mindstorms, Arduino, sensors, coding and hardware integration.

Selected internships

PTCL | Communication and Networking | June 2025
Exposure to broadband infrastructure, switching, routers, fiber optics and protocols.

SEPCO | Power Distribution Systems | May - June 2025
Studied grid-station equipment, distribution and protection systems.

Radio Pakistan Broadcasting Corporation | Communication Systems | July 2024
Exposure to FM/AM transmitters, receivers and station control equipment.

Pakistan Aeronautical Complex, Kamra | Avionics | May 2024
Exposure to avionics units, radar systems and maintenance processes.

MUET Electronic Engineering Department | PLC Programming | June 2023
Practical work with PLC hardware, ladder logic and automation concepts.

IEEE leadership and service

Chair, IEEE MUET Student Branch | January 2024 - July 2025
Secretary, IEEE MUET Student Branch | December 2022 - December 2023
Organized technical and professional-development activities and coordinated student volunteers.

Technical Chapter Coordinator, IEEE Karachi Section SAC team
August 2023 - April 2024
UI/UX Design Intern, IEEE Region 10 Young Professionals GEMS
July 2023 - January 2024

Selected recognition

Best Student Branch Chair Award, IEEE Karachi Section (2024 award year)
Best Student Branch Volunteer Award, IEEE Karachi Section (2023 award year)
Third place, Edge AI Project Competition, MUET (2025)
Third place, IEEE Karachi Section Ethics Competition (2024)

Professional development

Getting Started with AI on Jetson Nano, NVIDIA (2025)
Jetson Nano Starter to Pro, Packt / Coursera (2025)
Introduction to the Internet of Things & Embedded Systems, UCI / Coursera (2024)

References available on request.