

MUHAMMAD SHARJEEL

Electrical (Power) Engineering Undergraduate | Power Systems & Embedded Systems

Islamabad, Pakistan | +92 349 424 7619 | engr.muhammadsharjeel@gmail.com
linkedin.com/in/engr-muhammad-sharjeel | engr-sharjeel.github.io

PROFESSIONAL SUMMARY

Electrical (Power) Engineering undergraduate at **Air University** with internship experience at **IESCO** and **POWERCHINA SEPCO1**. Academic work spans substation and distribution-system design, transformer fabrication, micro hydropower, electric mobility and microcontroller-based control. Combines electrical safety and project procurement exposure with technical documentation and published policy research. Seeking electrical engineering internship and graduate opportunities.

TECHNICAL SKILLS

Power Systems: Load flow and fault analysis; substation and distribution-system design; transformer calculations and testing; CT/PT instrumentation; renewable energy; micro hydropower; electrical safety

Embedded Systems: Arduino UNO / ATmega328P; 8051 microcontrollers; Embedded C; C++; sensor integration; pulse-width modulation (PWM); motor control; digital logic design

Engineering Software: MATLAB; Proteus; ModelSim; PSpice; SolidWorks; printed circuit board (PCB) design; object-oriented programming (OOP)

Project Support: Project planning; project procurement; vendor coordination; regulatory compliance; technical and policy research; report writing; Microsoft Word and PowerPoint

PROFESSIONAL EXPERIENCE

Engineering Intern

Jul 2025 - Sep 2025

Islamabad Electric Supply Company (IESCO) | Islamabad, Pakistan

- Observed and assisted substation operation and maintenance activities across **Substation and Transmission Lines (SS&TL)** and **Protection and Instrumentation (P&I)**.
- Gained practical exposure to grid-station equipment, load flow and fault analysis, protection practices, electrical safety protocols and regulatory compliance procedures.

Engineering Intern

Jul 2024 - Sep 2024

POWERCHINA SEPCO1 | Islamabad, Pakistan

- Supported engineering project management, procurement and planning activities, including procurement documentation and vendor coordination.
- Observed project planning and scheduling workflows and coordination across engineering project stakeholders.

PROJECTS

Range Extended Electric Vehicle (REEV): Chassis and Power-train Integration

- Established architecture and integration methodology for a **two-seater** academic vehicle combining electric propulsion with an engine-generator range extender. **Final Year Project 1 (FYP-1) completed**; work to date covers the design and integration study.

34 kW Micro Hydropower Plant Design

- Completed a rural-electrification design study for **Kewai Village, Naran**, covering the water-to-wire system, environmental considerations and economic feasibility. The 34 kW capacity is a design specification.

Autonomous Multi-Sensor Navigation Robot

- Built an **Arduino** prototype integrating dual infrared sensors for line tracking, an ultrasonic sensor for obstacle avoidance and a light-dependent resistor (LDR) for ambient-light response through embedded control.

Single-Phase Center-Tapped Transformer

- Fabricated an Electric Machines prototype, applying winding calculations, bobbin selection, core-fit assessment and practical design revision; tested transformer behaviour and voltage-regulation concepts.

PROJECTS (CONTINUED)

Electronic Voting Machine (EVM) | 8051, Embedded C

- Programmed vote counting, logging and storage, switch debouncing and real-time results or tie display on a **16x2 LCD** for an automated voting-system prototype.

Signal Calculator | MATLAB GUI

- Developed a graphical interface to analyse and visualise continuous and discrete signals.

Additional Circuit Design and Software Projects

- Implemented a digital clock using counters, decoders and display drivers; developed temperature, water-level and rain-sensing circuits, a transistor audio amplifier, a band-pass filter and PCB layouts. Built **C++** university and **OOP** library management systems; modelled mechanical components and assemblies in **SolidWorks**.

EDUCATION

Bachelor of Science in Electrical (Power) Engineering

Sep 2023 - Present

Air University | Islamabad, Pakistan | Degree in progress

CGPA: 3.10 / 4.00 (Fall 2026 report snapshot)

FSc Pre-Engineering

Sep 2021 - Jun 2023

Nishat College of Science for Boys | Multan, Pakistan

PUBLICATIONS & RESEARCH

Strategic Policy Interventions for Enhancing the Future of Engineering Graduates in Pakistan

Coauthor | Published, 2025 | International Journal of Social Sciences Bulletin

Developed policy recommendations connecting engineering education, practical skills, industry requirements and graduate employability. doi.org/10.5281/zenodo.16811464

Impact of Electric Vehicle Charging Infrastructure on Distribution Network Voltage Stability

Manuscript: Examines EV charging demand, voltage profiles, losses and stability margins on radial distribution feeders.

Design and Integration of Chassis and Power-train Structure for a Range Extended Electric Vehicle (REEV)

Accepted abstract, 2026: Accepted for a future oral presentation; derived from the two-seater REEV academic project.

CERTIFICATIONS & TRAINING

- **NFPA 70E (2024) - Navigating Workplace Electrical Safety & Essential Updates** | Alison | Course completed Aug 2025
- **Essentials of Electrical Safety** | Alison | Course completed Aug 2025
- **Renewable Energy Technology Fundamentals** | University of Colorado Boulder via Coursera | Course completed Apr 2025
- **Electric Industry Operations and Markets** | Duke University via Coursera | Course completed Mar 2025

ACHIEVEMENTS

- **Highest GPA Certificates - Air University:** Semester 4, **3.46 GPA** (2025); Semester 5, **3.67 GPA** (2026).
- **IEEE Air University Certificate of Recognition** | 2025-2026
- **Certificate of Appreciation** for organising Farewell 2026 | Electrical and Computer Engineering department

LEADERSHIP EXPERIENCE

Campus Ambassador

27 Jul 2026 - 08 Oct 2026

Scholars Avenue | Air University, Islamabad, Pakistan

Awarded a Certificate of Participation for completed Campus Ambassador service.

MEMBERSHIPS & LANGUAGES

Memberships: IEEE; Rotary International Club

Languages: Urdu (native)

English: IELTS Academic - Overall band **7.5 / 9** (CEFR C1) | Test date: 03 Aug 2026

Component bands: Listening 8.5; Reading 7.5; Writing 6.5; Speaking 6.5