



Muhammad Rafique

Electrical Engineer

Electrical Engineering graduate from Namal University combining specialized, hands-on experience in robotics, custom motor design, and Embedded C programming. Highlighted by a Final Year Project (FYP) designing a YAFM (Yokeless Axial Flux Machine) and implementing its custom controller from scratch on a RISC-V architecture. Adept at bridging low-level firmware with physical hardware to build and optimize functional automated systems. Backed by a comprehensive foundation across diverse electromechanical disciplines, offering strong technical agility, a proactive problem-solving mindset, and a dedication to continuous learning.

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EDUCATION

BS Electrical Engineering

Namal University, Mianwali

Courses

- Object Oriented Programmng
- Embedded System
- Control System
- Machine Learning
- Communication System
- Digital Signal Processing
- Data Base Engineering

WORK EXPERIENCE

Transmission Intern

FESCO, SS & TL Branch, Mianwali

Assisted engineers in Control Room, Maintenance, and P&I departments of 500 kV grid station.

Jul 2025 - Aug 2025 | Mianwali, Pakistan

Summer School on RISC-V and Linux

Cente of AI and Big Data (CAID) , Namal University Mianwali

Explored **RISC-V architecture** and open-source ecosystems to understand modern processor design and hardware virtualization. Developed hands-on experience with **Linux-based development environments**, utilizing terminal-based workflows for system-level programming and debugging.

Jul 2024 - Aug 2024 | Mianwali, Pakistan

Summer School on Supercomputing & AI

Cente of AI and Big Data (CAID) , Namal University Mianwali

Explored **High-Performance Computing (HPC)** architectures and parallel programming models to optimize large-scale AI workloads and data processing.

Aug 2025 - Aug 2025 | Mianwali, Pakistan

SKILLS

Robotics MATLAB Proteus Motor Design (Ansys MotorCAD)
ETAP CISCO Packet Tracer AutoCAD Veriog Embedded C/C++
SQL

PROJECTS

Design of Yokeless Axial Flux Motor and Its Control using Open-Source Processor (FYP)

Electromechanical Design Engineer

Collaborated with Khurshid Fans to design a highly efficient (90.7%) Coreless Yokeless Axial Flux Motor for solar-powered applications. Modeled the zero-cogging, coreless stator using Ansys Motor-CAD to eliminate iron losses. Successfully developed a custom Controller and wrote Embedded C firmware for an open-source RISC-V microcontroller (CH32V307) to provide precise, high-frequency PWM motor control.

Mashroom Classifier Using ML

Undergraduate Researcher

Line Following Robot using Atmega328p

Undergraduate Researcher

Speed Control of DC motor using Atmega328p

Undergraduate Researcher

Library Management System

Undergraduate Researcher

Audio Speed Modification Using DSP Kit

Undergraduate Researcher

CERTIFICATES

Two-Time Champion, Robotics Competition – Namal Tech Expo (2025 & 2026)

Namal University, Mianwali

1st Place Champion, Sumo War Robotics Competition – AI InnoFest (2025)

Bahria University, Islamabad

INTERESTS

Book Reading Cricket Hunting