Nafees Mohammed

Electrical Engineer| MEP and Power Systems



PROFESSIONAL SUMMARY

Electrical Engineer with practical site and R&D experience in power distribution and MEP systems. Strong foundation in LV distribution, transformers, generators, motor controls, protective relays, and electrical panels. Experienced in load calculations, cable sizing, short-circuit analysis, coordination checks, and commissioning activities. Combines hands-on installation experience with embedded and IoT skills for intelligent power monitoring and building services solutions. Seeking opportunities in MEP design, power systems engineering, and electrical distribution projects.

EDUCATION

- **BSc (Hons) in Electrical & Electronic Engineering**

Sri Lanka Institute of Information Technology (SLIIT)
Class: Second Class | Year: 2025

- **BSc in Physical Science (Completed 1st Year)**

Wayamba University of Sri Lanka | Year: 2022

TECHNICAL SKILLS

Power Systems & Electrical Distribution

- LV Electrical Distribution Systems
- Transformers & Generator Systems - Installation & Maintenance
- Switchboards, Distribution Boards (DB), and Motor Control Centers (MCC)
- Single-Phase and Three-Phase Power Systems
- Power Factor Concepts & Load Balancing
- Electrical Protection Basics

MEP Electrical Systems

- Building Electrical Services
- Electrical Installation Practices for Commercial & Residential Buildings
- Cable Sizing and Load Calculation Concepts
- Cable Tray, Conduit and Electrical Routing Layouts
- Basic Understanding of HVAC Electrical Interfaces
- Earthing / Grounding Systems
- Lightning Protection Systems

Electrical Design and Documentation

- Single Line Diagrams (SLD)
- Electrical Layout Drawings
- Load Schedules and Panel Schedules
- Basic Electrical Design Documentation

Electrical Testing, Commissioning and Maintenance

- Electrical Equipment Testing and Commissioning Support
- Generator and Transformer Basic Inspection
- Panel Wiring, Termination and Testing
- Preventive Maintenance of Electrical Systems
- Electrical Fault Identification and Troubleshooting

Electrical Measurement and Instrumentation

- Electrical Measurement Techniques
- Use of Multimeter and Basic Electrical Testing Equipment
- Voltage, Current and Continuity Testing

Programming Languages

- C
- C++
- Python
- VHDL

Electrical Standards

- IEC Electrical Standards
- Electrical Safety Standards Awareness

Automation & Industrial Control

- PLC Fundamentals (Siemens / Allen-Bradley / Mitsubishi)
- Ladder Logic Programming
- SCADA Systems Fundamentals
- Industrial Communication Protocols (Modbus, CAN, etc.)

Engineering Software and Tools

- AutoCAD
- Revit MEP
- MATLAB / Simulink
- SolidWorks
- MS Office
- EasyEDA, Altium Designer
- Proteus and NI Multisim

PROFESSIONAL EXPERIENCE

Assistant Lecturer

Sri Lanka Institute of Information Technology (SLIIT) | *Mar 2025 – Present*

- Delivered undergraduate modules in circuits, electrical machines, and power systems fundamentals.
- Supervised laboratory sessions on electrical measurements, instrumentation, and testing procedures.
- Developed laboratory manuals, practical guides, and assessment materials aligned with course outcomes.
- Designed and prepared laboratory experiments and instructional materials to support practical understanding of electrical systems.
- Guided student projects related to electrical system design, testing, and documentation.
- Promoted safe engineering practices and industry-relevant standards in laboratory environments.

Electrical & Electronic Engineer (R&D)

Sri Lanka Telecom PLC – Digital Lab | *Feb 2022 – May 2023*

- Supported the development and testing of monitoring prototypes for energy and environmental data acquisition.
- performed hardware setup, sensor validation, and electrical interface testing to ensure stable prototype operation.
- Conducted measurement validation, calibration, and data verification for energy monitoring systems.
- Implemented and tested data logging and cloud connectivity for monitoring dashboards.
- Prepared technical documentation, validation reports, and testing records aligned with R&D development processes.
- Assisted field teams during pilot deployments and on-site system validation activities.

Electrical & Electronic Engineer

Hameed Wirings (Pvt) Ltd | *Apr 2020 – Jan 2022*

- Executed installation, testing, and commissioning support for LV distribution panels, MCC panels, transformers, generators, and building electrical wiring systems.
- Performed fault diagnosis, troubleshooting, and corrective maintenance of power distribution networks and control panels.
- Conducted preventive maintenance and inspection of generator and transformer systems to support reliable operation.
- Assisted in identifying recurring electrical faults and supported corrective actions to improve system performance.
- Ensured compliance with electrical safety standards and coordinated with site engineers to maintain quality execution.

MAJOR PROJECTS

- **Smart 3-Phase Energy Monitoring & Protection System**

Designed and developed a microcontroller-based three-phase energy monitoring and protection system for industrial load applications. Implemented real-time voltage and current measurement, RMS and power factor calculations, and automatic fault detection for overcurrent, undervoltage, and phase imbalance conditions. Integrated relay-based load isolation, event logging, and optional cloud monitoring for remote diagnostics.

- **Battery Management & Protection System (BMS)**

Designed a battery monitoring and protection system incorporating voltage, current, and temperature sensing to improve battery safety and reliability. Implemented protection logic for overcharge, over-discharge, short-circuit, and thermal protection conditions suitable for EV and energy storage systems.

- **IoT-Based Energy / Environmental Monitoring System**

Developed an IoT-enabled monitoring system for real-time environmental and energy data acquisition. Integrated sensors, microcontroller-based data logging, and cloud-based dashboards for remote monitoring and analysis.

- **Safety Helmet for Electrical Workers**

Designed a sensor-based safety alert system integrated into a protective helmet to enhance worker safety in electrically hazardous environments. Implemented hazard detection and alert notification mechanisms to improve occupational safety awareness.

- **Automated Plant Watering System**

Developed a microcontroller-based smart irrigation system utilizing soil moisture sensing for optimized water management and automated irrigation control.

CERTIFICATIONS & ONLINE COURSES

- Foundations: Data, Data, everywhere – Coursera
- Foundations of Data Science – Coursera
- Web Design for Beginners – University of Moratuwa (OUM)

LANGUAGES

- English – Fluent
- Tamil – Fluent
- Sinhala – Fluent
- Arabic – Basic
- Hindi – Basic