Musfir Mohammed

Electrical Engineering Graduate | SCE Registered Engineer

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EDUCATION

B.Sc. in Electrical Engineering | Prince Sattam bin Abdulaziz University 2021 – 2026

Alkharj, Saudi Arabia | **GPA: 4.61 / 5.00 Second Class Honours**

WORK EXPERIENCE

Electrical Engineering Intern | Alkhorayef Industries Jun 2025 – Aug 2025

Riyadh second industrial city, Saudi Arabia

- Tested and commissioned 13.8 kV RMUs and medium-voltage switchgear.
- Performed insulation resistance, dielectric withstand, and contact resistance testing.
- Tested and configured protection relays (overcurrent and earth fault).
- Assisted in RTU, ATS/RTS, and diesel generator commissioning.
- Interpreted and modified electrical schematics, wiring diagrams, and single-line diagrams.

PROJECTS

Photovoltaic Power Electronics and Control System (*Graduation Project*)

- Designed and implemented a PV power conversion system integrating MPPT, bidirectional DC-DC conversion, and inverter control in MATLAB/Simulink.
- Designed cascade PI controllers using frequency-response methods and validated real-time operation on dSPACE DS1104.

Broadband Microwave Matching Network Design (Keysight ADS)

- Designed and optimized broadband impedance matching networks using Smith Chart synthesis and Keysight ADS.
- Achieved $S_{11}/S_{22} < -20$ dB over the 2–4 GHz frequency band.

Traffic Light Controller (PIC16F877A)

- Designed a traffic light controller using PIC16F877A with Embedded C, MPLAB, and Proteus.
- Implemented real-time control logic and hardware-software integration.

Smart Lighting System (Arduino)

- Developed an Arduino-based smart lighting system using infrared sensors, relay drivers, and embedded control logic.

TECHNICAL SKILLS

Electrical Engineering: Power Systems, Power Electronics, Electrical Machines, Protection Systems, Electrical Measurements, Electrical Drawings (Single-Line Diagrams, Wiring Diagrams & Schematics)

Commissioning & Testing: Electrical Commissioning, Equipment Testing, Troubleshooting, Fault Diagnosis, Protection Relay Testing

Industrial Systems: RTU Systems, CAN Bus (Basic), ATS/RTS Control Panels

Simulation & Design: MATLAB, Simulink, dSPACE DS1104, Proteus, PSpice, Keysight ADS, AutoCAD

Programming: C, C++

Microsoft Office: Excel, Word, PowerPoint

Professional Skills: Technical Report Writing, Problem Solving, Teamwork, Communication

LANGUAGES

Arabic (Native) **English** (Professional Working Proficiency)