Mohammed Shehzad K Salim

ELECTRICAL ENGINEER | SOLAR ENGINEER | PCB HARDWARE DESIGNER

About Me

Dynamic Electrical and Electronics Engineer with progressive responsibility in solar project management, sales, and technical execution across residential, commercial, and utility sectors. Extensive hands-on experience in high-voltage OHTL and UGC transmission systems (110kV and above), enabling expert-level integration of solar PV plants ranging from 25kW to 200kW with national grid infrastructure. Demonstrated ability to deliver end-to-end project coordination, substation design, power system planning, and vendor management for multi-megawatt solar and transmission projects. Recognized for uniting technical depth with leadership in cross-functional teams, ensuring efficient, compliant, and scalable energy solutions for modern utility demands.

Projects

2025 **INNOVATIVE FPGA CONTROLLER CARD FOR INVERTER SYSTEMS - MARINE ELECTRICALS INDIA LTD**

Dissertation Project for M.Tech VLSI & Embedded Systems

I designed both the schematic and hardware for a three-phase inverter capable of handling DC inputs ranging from 320V to 1,200V and supporting up to a 10kW load, utilizing Altium Designer for the hardware and feedback sensing circuits. For the system's control, I implemented a Proportional-Integral (PI) controller using Matlab Simulink, incorporating the transformation block method for accurate modeling. Additionally, I developed and tested an FPGA controller card for the inverter, using Icarus Verilog and Efinity Software for hardware description and synthesis, and validated the PI controller code in gtkwave, ensuring reliable closed-loop operation.

2024 **FPGA-BASED SPWM GENERATOR**

Dissertation Phase 1 for M.Tech VLSI & Embedded Systems

I developed Verilog code to generate both single-phase and three-phase Sinusoidal Pulse Width Modulated (SPWM) waveforms using Icarus Verilog, validating the design by analyzing the simulated waveforms in Gtkwave. This code was then run on Efinity Software, and the resulting output waveforms were verified on a digital oscilloscope to ensure accurate real-world performance. Additionally, I developed and executed an SPWM generation model in Matlab Simulink to aid in the design and validation process.

2023 **UART COMMUNICATION BY DEVELOPING FPGA DEVELOPMENT BOARD**

Mini Project for M.Tech VLSI & Embedded Systems

I designed and developed the T20 series Efinix T20Q144I4 FPGA development board using Altium Designer, ensuring it met the specific requirements for advanced digital applications. I also designed and thoroughly tested UART communication on this board, utilizing Putty Software for verification and debugging. This custom development board was subsequently used as the hardware foundation for my dissertation project.

Education, Certification, & Work Experience

REGIONAL PROJECT & SALES MANAGER| KIAH ENERGIES PVT. LTD.

August 2025 - Present

- Leading solar project sales and technical execution across the region, with direct responsibility for the successful delivery of multiple grid-connected PV projects ranging from 25kW to 100kW, including residential, commercial, and utility-scale plants.
- Coordinated and managed engineering, procurement, and construction for 25kW, 50kW, and 100kW solar panel installations, ensuring compliance with national grid standards and efficient transmission integration.
- Applied advanced electrical systems knowledge in transmission and cabling—especially OHTL and UGC networks above 110kV—facilitating robust grid interconnection for all solar installations and improving overall system reliability and scalability.
- Enabled superior project outcomes by leveraging deep expertise in substation planning, power evacuation, grounding, and safe termination practices developed through previous high-voltage transmission projects.

EXTERNAL SOLAR PROJECT & SALES CONSULTANT | JUMBO SOLAR POWER, ALUVA, INDIA

August 2022 - April 2025

- Company Overview: MNRE-approved vendor ranked 13th among Kerala's top 50 vendors by the Central Government.
- Supported solar PV substation integration with national grid networks utilizing OHTL and UGC connections at voltages of 110kV and above.
- Oversaw engineering and execution for a portfolio of solar projects (25kW to 200kW), aligning technical design with grid transmission protocols to optimize efficient energy delivery and future expandability
- Contributed to the technical specification, vendor selection, and execution of fiber optic communication networks (OPGW, OFMR) used in grid-connected solar PV generation infrastructure.
- Collaborated on KSEB-supported DCR and Non-DCR solar projects, ensuring timely delivery and client satisfaction.
- Participated in planning and documentation of grid interface assets such as link boxes, power cables, and termination kits, aligning solar generation outputs with high-voltage transmission standards.

Education, Certification, & Work Experience

MASTER OF TECHNOLOGY IN VLSI & EMBEDDED SYSTEMS | MAR ATHANASIUS COLLEGE OF ENGINEERING

August 2023 - June 2025

- Relevant Coursework: Advanced Digital System Design, VLSI Design Methodologies,
- Embedded Systems Programming, FPGA Prototyping
- Internship, Research & Development Engineer, Marine Electrical India Limited
- Dissertation: Innovative FPGA Controller Card For Inverter Systems
- UART Controlled Stopwatch using FPGA module
- FPGA Hardware Designing & UART Interfacing
- Three Phase Inverter Designing and Hardware Implementation
- FPGA Controller Card Designing and Hardware Implementation

GIS ENGINEER | NEST DIGITAL PRIVATE LIMITED

May 2019 - September 2022

- Played an integral role in electrical utility planning and network layout development for substation and high-voltage transmission projects, specifically focusing on OHTL and UGC systems of 110kV and above.
- Utilized ArcGIS for mapping transmission routes and underground cable networks, supporting spatial planning and field coordination for large-scale utility projects
- Scheduled and tracked complex project timelines using Primavera P6, ensuring timely execution of transmission infrastructure works, including conductor, hardware, and surge arrestor installation for 110kV networks.
- Contributed to GIS database creation covering grounding conductors, cable terminations, and key transmission assets in OHTL and UGC circuits, supporting project documentation for compliance and future maintenance.
- Presented technical reports and findings to stakeholders, effectively communicating complex GIS concepts in a simplified manner.

Education, Certification, & Work Experience

DESIGN ENGINEER | UNITEK POWER SOLUTION PRIVATE LIMITED

December 2017 - January 2019

- Designed and developed high-voltage electrical systems including 3-phase UPS and AC/DC converter units for critical rail and industrial infrastructure, with a notable focus on the 110kV UPS for Greater Noida Metro Rail.
- Led design efforts involving specification and integration of surge arrestors, insulators, cabling, and earthing for above 110kV projects, coordinating vendor engagement and technical compliance checks with key manufacturers.
- Supported the technical review and design adaptation for OHTL hardware, cable joints, termination kits, and management racks in transmission and substation projects, ensuring functional reliability for HV networks.

BACHELOR OF TECHNOLOGY IN ELECTRICAL & ELECTRONICS ENGINEERING | KMEA ENGINEERING COLLEGE

2013 - 2017

- Capstone Project: Led a team to develop a “Safe Car Drive” system integrating sensors and image capture to enhance driving safety.
- Completed specialized courses in Power Electronics and Renewable Energy Systems, gaining a strong foundation in power generation, transmission, and distribution technologies.

Skills & Proficiencies

- **ELECTRICAL SYSTEMS:**
  - Solar PV System Design, Substation Layouts, Power Distribution, UPS Systems, AC-DC/ DC-AC Converters, OHTL Design, Power Transmission, Under Ground Cable design.
- **DESIGN & SIMULATION:**
  - PVSyst, LTSpice, ETAP , PCB Design (Altium), MATLAB/Simulink
- **EMBEDDED SOFTWARE:**
  - Verilog HDL, Embedded C, FPGA (Efinity, Icarus Verilog)
- **PROJECT PLANNING & GIS TOOLS:**
  - Primavera P6, ArcGIS
- **SOFT SKILLS:**
  - Technical writing & documentation, public speaking/presentations, team collaboration, project coordination

Connect with me

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