Neet Maru

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INTRODUCTION

Skilled Electrical Engineer with hands-on experience in high-voltage battery systems, charger–BMS integration, and system-level power electronics. Proficient in designing and validating ESS packs, DC–DC power converters, and HVDC systems with a strong background in testing, troubleshooting, and EMC/EMI compliance. Experienced in PCB design using OrCAD and Altium, with additional expertise in embedded controllers, SPICE simulations, and electrical system optimization. Known for cross-functional collaboration, technical reporting, and delivering reliable, high-performance solutions across energy storage, automation, and power engineering applications.

EXPERIENCE

Aionix11 | Connecticut, USA **|** ***System Engineer*** **Current**

- Integrated GPU servers and networking hardware to support real-time Al chatbot and gaming applications.
- Optimized system power distribution and cooling for stable, low-latency performance under peak loads.
- Implemented monitoring systems to ensure uptime, fault detection, and rapid recovery in live environments.
- Collaborated with Al and software teams to define hardware needs and validate system performance before deployment.

Verex Engineering LLC | ***Electrical Engineer*** **July 2024 – April 2025**

- Designed DC—DC power conversion modules, high-speed signal routing circuits, and control subsystems, managing the full design lifecycle from requirements capture and SPICE simulations to component selection, thermal analysis, cost estimation, and production scheduling.
- Developed schematics and multi-layer PCB layouts using OrCAD and AutoCAD, led system integration, prototype testing, and manufacturing handoff with automation solutions.

University of Hartford | Connecticut, USA | ***Teaching Assistant*** **January 2023 - May 2023**

- Alleviated Electric Circuit Analysis, Electromagnetic Field Theory and Fundamentals of Circuits & Electronics problems to undergraduate students.
- Designed and built circuit projects in Cadence OrCAD, facilitating hands-on learning by aligning projects with course concepts and helping students develop practical circuit design skills.

Waaree ESS PVT. LTD. | Gujarat, IN | ***Electrical Engineer*** **January 2022 - June 2022**

- Hands-on experience with high-voltage lithium battery systems, including testing and troubleshooting BMS and HVDC power systems.
- Supported **validation and reliability testing** of ESS packs, including **thermal behavior, cycle life, safety protections, and HV insulation checks**.
- Exposure to HVDC solar power generation and high-voltage system integration.
- Diagnosed and resolved BMS issues in 60V-96V forklift batteries and 5-10KW ESS systems, to improve battery management.
- Collaborated with cross-functional teams to validate lithium battery packs and troubleshoot charger–BMS integration issues for forklift and ESS applications

Quick Electronics | Gujarat, IN | ***Electrical Intern*** **January 2021- November 2021**

- Acquired PCB design skills using Autodesk Eagle and soldering experience, along with expertise in designing LED driver circuits according to IS codes and producing technical documentation.
- Modeled, analyzed circuits using SPICE, and optimized performance through tradeoff analysis.
- Conducted electrical and electronics tests on LED products, ensuring compliance with standards and implemented comprehensive circuit testing and applied ISO quality systems for product development.

KEY SKILLS

- Conducted SPICE simulations and validation for DC–DC power converters and high-speed signal routing, ensuring AC/DC signal integrity and EMC/EMI compliance.
- **Circuit Design & Modeling**: Cadence (SPB 17.4, OrCAD, PSpice, PCB Editor), Altium Designer, Allegro, AutoCAD, Electrical, KiCAD, LTSpice.
- **Languages/Softwares:** Python, C, PLC SCADA Programming, NI LabVIEW, MATLAB, Microsoft Office.
- Well-versed knowledge of HMI design using ABB PLC software.
- Proficient in modern PC architecture, including CPU, GPU (CUDA cores, memory bandwidth, GPU acceleration), with expertise in X86 and ARM.
- Familiar with BIOS/UEFI, and Windows/Linux OS.

EDUCATION

University of Hartford | Hartford, CT | ***Master of engineering in Electrical and Computer Engineering***
May 2024
Relevant Coursework: System Design and Implementation, Simulation and Rapid Prototyping of Integrated Electronic Systems, Power Electronics, Advanced Robotics, Mechatronics System Design, Cyber Defense Fundamentals, Photovoltaic System Design.

Gujarat Technological University | Gujarat, IN | ***Bachelor of Engineering in Electrical Engineering***
June 2021
Relevant Coursework: Design of DC/AC Machines, Circuits and Networks, Signals and system, Power Electronics, Digital Electronics, Power System
Planning and Design.

PROJECTS

12/24 Hour Digital Clock | ***Project Paper*** **May 2023**
- Designed and developed a four-layer 12/24 switchable digital clock using Cadence OrCAD PCB Designer with 7490 Decade Counters, 7408 AND gates, and a 555 Timer.
- Created PCB layouts ensuring AC/DC signal integrity and EMC compliance and Conducted circuit testing throughout the product development lifecycle.

Salinity Meter | *Project Paper* **December 2022**
- Developed a compact, battery-powered salinity meter with a two-layer PCB using Cadence OrCAD, integrating an LM324 amplifier and resistive sensor for accurate low-level analog measurements and A/D conversions.
- Engineered embedded systems with a focus on sensor technology, signal processing, and microcontroller integration; gained hands-on experience with digital logic, optoelectronics, analog filters, EMC components, and communication hardware.

Automatic Storage and Retrieval System | *Final Year Project Report* **May 2021**
- Engineered a robotic system utilizing ladder logic with an ABB 07KR51 PLC and an HMI interface, integrating IR sensors and limit switches to coordinate five DC motors for precise movement.
- Developed an automated storage and retrieval system prototype using stepper and DC Johnson motors, improving efficiency and accuracy by 90% and maximizing floor space.
- Engaged in electromechanical design and system integration testing.

CERTIFICATIONS

- **Programming for Everybody (Getting started with Python)**
- **Electric Power Systems**
- **AI for everyone**