Rajesh Venkataraman

PRINCIPAL ELECTRICAL ENGINEER

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SUMMARY

Principal electrical engineer with 13 years in power electronics and power distribution hardware for data centers and battery storage. Sets the architecture for converter and protection designs, from SPICE and MATLAB models through schematic capture, PCB layout and certification. Guides a 9-person hardware team and explains technical tradeoffs clearly to program leaders and customers.

SKILLS

Schematic Capture • PCB Layout • SPICE • MATLAB • Python • Altium • Oscilloscopes • Power Distribution Troubleshooting • Communication Skills

EXPERIENCE

Principal Electrical Engineer 01/2021 - Present

Triangle Grid Technologies Raleigh, NC

Designer of power conversion systems for battery storage and data centers.

- Develop the architecture of a 250 kW bidirectional inverter platform now running at **40** storage sites.
- Model converter losses and control loops in MATLAB and SPICE, raising peak efficiency from 97.2% to 98.4%.
- Approve schematic capture and PCB layout for 14 boards in Altium after reviews with firmware and mechanical leads.
- Coach 9 engineers on design practice, test plans and root-cause analysis; 3 have moved into senior roles.

Senior Electrical Engineer 06/2016 - 12/2020

Cary Power Systems Cary, NC

Maker of power distribution units and UPS modules.

- Led power distribution design for a rack PDU family that shipped 60,000 units to cloud data centers.
- Directed troubleshooting of a field failure with oscilloscopes and thermal imaging, finding the root cause in 3 weeks.
- Wrote Python scripts that parse test station logs and flag marginal units before shipment.
- Prepared UL and IEC safety test packages for 7 products, all certified without redesign.

Electrical Engineer 06/2013 - 05/2016

Research Triangle Drives Durham, NC

Motor drive and power supply manufacturer.

- Designed gate drive and current sensing circuits for 3 industrial motor drives rated 5 to 75 kW.
- Ran 200-hour burn-in tests on prototype power stages and reported failures to the design team.
- Selected magnetics and capacitors with suppliers to meet cost targets on 2 product lines.
- Presented design reviews to 2 OEM customers and answered their compliance questions in writing.

EDUCATION

Master of Science 05/2013

North Carolina State University Raleigh, NC

Electrical Engineering

CERTIFICATES

Professional Engineer (PE) 03/2018

North Carolina Board of Examiners for Engineers and Surveyors