

PROFESSIONAL SUMMARY

Highly analytical Electrical Engineer with expertise in designing, optimizing, and implementing electrical distribution systems for energy sectors. Proficient in advanced engineering software and tools, with a proven track record in enhancing electrical systems, managing projects, and ensuring regulatory compliance. Adept at cross-functional collaboration and committed to sustainable solutions. U.S. Citizenship expected May 2026; eligible for security clearance thereafter.

ENGINEERING EXPERIENCE:

QUANTA SERVICES, Distribution Engineer,

Greensboro, NC, SCE outside contractor (2024-Now)

Engineered high resilience overhead and underground power distribution systems and critical infrastructure focusing on system hardening and automated fault recovery. Expert in Autodesk Utility Design (AUD) and geospatial modeling, I have executed complex structural integrity analyses and mechanical loading simulations to ensure hardware durability in high stakes environments. I possess deep experience integrating automated intelligence such as high speed relays and fault detection sensors into unified control systems to safeguard sensitive electronic arrays. I manage end to end project lifecycles including complex permitting processes and the application of rigorous construction standards to ensure field readiness. With a proven track record of Total Transfer Capability (TTC) analyses, I align technical outputs with mission critical requirements while ensuring strict compliance with National Electrical Safety Code (NESC) and California regulatory standards including GO 95, 128, and 165. Above all, I prioritize a culture of safety, integrating human and environmental protection protocols into every design to mitigate risk and ensure zero harm during construction and long term operation.

Wake Forest University, Department of Engineering,

Winston-Salem, NC, Engineering Electric Lead, Electric Boat Project (2023-2024)

Served as Electric Lead for a high performance maritime propulsion system, spearheading electrical architecture and energy storage strategy. Specialized in the custom design of high capacity LiFePO4 battery packs, optimizing cell configuration and voltage overhead to meet peak motor torque requirements. Engineered the integration of a Battery Management System (BMS) with precise cell balancing protocols to maximize capacity and system longevity. Designed a waterproof power enclosure and manufactured custom high conductivity copper bus bars via precision CNC machining to minimize resistive losses under high current loads. Utilized ZEISS laser scanning and Creo Parametric for spatial optimization, ensuring all systems met rigorous maritime performance specifications and uncompromising safety standards for high energy density hardware.

EDUCATION:

Wake Forest University:

Winston-Salem, NC,
Bachelor of Science in General Engineering, Minor in Spanish

SKILLS:

Systems Design and Engineering Software:

Hardware Modeling: Creo Parametric, SolidWorks, Revit, Autodesk Utility Design (AUD), AutoCAD Map 3D.

Spatial Analysis: GIS ArcGIS, SPIDACALC, High Precision ZEISS Laser Scanning, 3D Rendering.

Electrical Analysis: Power Flow Calculations, System Protection and Coordination, Fault Analysis, Device Coordination, DER Integration, Power Quality, Interconnection Studies.

Power Systems and Strategic Infrastructure:

Electrical Engineering: High Voltage Systems, Electrical Diagnostics, Voltage Drop and Flicker, Reconductor and Cutover Strategy, Power System Operations.

Grid Automation: Automatic Switching Equipment, Smart Grid Automation, Fault Indicators, Logic Relays. Structural Reliability: Pole Loading Analysis, Anchor Calculation, Mechanical Stress and Operational Survivability Analysis.

Program Management and Regulatory Compliance:

Technical Operations: SAP, Digital Manager, Quickbase, SmartSheets, Bluebeam, Bill of Materials (BOM), Excel.

Regulatory Governance: NESC, NERC PRC, California Regulatory Standards (GO 95, 128, 165), QA/QC.

Strategic Leadership: Risk Assessment, Budget Management, Ganit Scheduling, Complex Permitting, Lifecycle Management.

Research, Development, and Advanced Fabrication:

Precision Manufacturing: CNC Machining, Aluminum Extrusion Systems, Additive Manufacturing (3D Printing).

Validation and Testing: ZEISS Laser Scanners, Digital Diagnostic Tools, Prototype Validation, Electrical Testing.

Operational Safety: Strict adherence to high voltage safety protocols, PPE requirements, and Risk Mitigation.

Professional Leadership and Communication:

Competencies: Technical Communication, Cross Functional Team Collaboration, Mentorship, Complex Problem Solving.

Languages: Full Professional Proficiency in English and Spanish.