JOSE BETANCOURT

Electrical & Robotics Engineer

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EDUCATION

Bachelor of Electrical Engineering | McNeese State University | Minor in Physics, Power and Automation Engineering| Jan 2020 - Dec 2024 | GPA: 3.48/4.00

Master of Electrical Engineering | McNeese State University | Aug 2025 – Dec 2026 | GPA: 4.00/4.00

RELEVANT SKILLS

- **Robotics & Control:** ROS2, Boston Dynamics Spot, Unitree Humanoid, PLC, Actuator & Motor Drives, Computer Vision
- **Embedded Hardware:** PCB Design (KiCAD), ESP32, & Arduino, Verilog (FPGA), NVIDIA Jetson, Fusion 360 & AutoCAD
- **Programming:** Python, C++, Linux (Ubuntu), SQL, MATLAB, Gurobi
- **AI:** PyTorch, TensorFlow, Deep Learning, Machine Learning, Reinforcement Learning, Data Analysis
- **Power Systems:** ETAP, Power Electronics, 1-Line & 3-Line Diagrams, Fault & Protection, BESS

WORK EXPERIENCE

FieldAI | Field Robotics Application Engineer | Lake Charles, LA | Sep 2026 – Present

- Lead field operations and real-time monitoring for Boston Dynamics Spot and Unitree humanoid platforms, ensuring operational safety, mission uptime, and uncorrupted sensor data acquisition.
- Diagnose and resolve system-level faults across Linux (Ubuntu), ROS2, and Python stacks, logging performance diagnostics and anomalies to optimize autonomous deployment pipelines.

Least Action Robotics and Research | Robotics Lead Engineer | Lake Charles, LA | Sep 2025 – Present

- Engineered an AI framework on an NVIDIA Jetson running Ubuntu Linux, deploying Ollama to process camera and sensor data for advanced autonomous perception.
- Developed robotic control architecture using ROS2, C++, and Python, seamlessly integrating motor drive and feedback systems to achieve precise actuator response.
- Created custom printed circuit boards (PCBs) and robotic chassis and hardware mounts utilizing Fusion 360 design, ensuring structural integrity and proper physical integration of all electronic components.

Amazon | Mechatronics/Robotics Maintenance Engineer | Shreveport, LA | Jan 2025 – Aug 2025

- Troubleshot and maintained 50+ automated packaging robots and distribution conveyors, reducing equipment downtime by 18%.
- Rolled out predictive maintenance routines using the resources available, extending mean time between failures by 22%.
- Partnered with cross-functional teams of 8 to optimize firmware updates, accelerating deployment cycle by 30%.

McNeese State University | Graduate Engineer Research Assistant | Lake Charles, LA | Sep 2025 – Present

- Co-authored 4 research published or accepted peer-reviewed papers with faculty advisor focused on EV battery analytics, degradation modeling, and cooling-/degradation-aware microgrid scheduling, Data Center Loads, Transmission Congestion Optimization.
- Built and validated an ML-based battery temperature prediction pipeline (DNN), achieving ~2.38°C MAE, and integrated results into microgrid day-ahead optimization to improve thermal safety margins.
- Designed data preprocessing and workflows for real-world EV battery datasets, improving training and model reliability for neural-network development.

Rain CII Carbon, Inc | Sustainability Engineer Intern | Sulphur, LA | June 2024 - Sep 2024

- Designed and orchestrated the installation of 3 complex water recycling systems, conserving over 40 million gallons annually.
- Conceived and implemented an automated truck wash system—designing electrical diagrams, bills of materials, and overseeing contractors—boosting safety and cutting wash time from 20 to 5 minutes.
- Fortified PLC control panels by securing ladder logic access, removing obsolete valves, and redesigning HMIs—eliminating unauthorized code changes and enhancing operational safety.

Recon Management Services, Inc. | Electrical Engineer Intern | Sulphur, LA | June 2023 – Nov 2023

- Designed and deployed phase and ground fault protection schemes for three plant power systems in ETAP, ensuring 100% compliance with NEC and IEEE standards.
- Built comprehensive one-line power system models and executed power flow analyses, optimizing load distribution and reducing peak loading by 15%.
- Established out short-circuit studies to validate fault current calculations and refine protective device settings, decreasing clearance times by 20%.