

Monica Castro-Suarez

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Objective

A motivated computer engineering graduate seeking an entry-level role where I can support project teams through system testing, hardware and software integration, technical documentation, and network diagnostics. I am eager to learn from experienced engineers while strengthening my embedded systems and computer engineering skills and contributing to projects across defense, aerospace, and technology sectors. I am currently preparing for the Fundamentals of Engineering (FE) exam with the goal of becoming a licensed Professional Engineer (PE).

Education

University of Central Florida

Bachelor of Science: Computer Engineering

Orlando, Florida

Graduated: August 2025

Professional Experience

Prism Systems– Orlando, FL

January 2024 - December 2024

Engineering Intern

- Coordinated with Cisco representatives to implement and optimize network solutions that enhanced the project through their technical expertise.
- Configured and updated firmware for over 70 attraction vehicles, while diagnosing and resolving network issues, ensuring minimal downtime and optimal performance.
- Worked closely with senior engineers and project managers to meet project deadlines and objectives.
- Utilized network monitoring tools to track and optimize performance, ensuring efficient data flow and connectivity.
- Provided technical support to team members and clients, addressing network-related queries and issues.
- Supported with preparing daily, weekly, and monthly progress reports required by the client.
- Contributed to developing maintenance guidelines for attraction technicians to troubleshoot networking and hardware issues.

Universal Creative– Orlando, FL

September 2023 - December 2023

Show Systems Intern

- Participated in over 5 construction site visits to review progress and confirm accurate installation of key facility features while supporting project ride and 3 show system designs.
- Assists managers with day-to-day management of 3 vendors, review of drawings, and documentation.
- Aided with writing installation documentation and Show Element integration.
- Assigned projects and collaborated with different teams and worked on fluid mesh systems and LCB's systems.
- Worked with vendors to review plans and identify the optimal locations for equipment installation.
- Organized and conducted meetings to ensure completion of assigned projects.

Project Highlight

Digital Transmission in Free Space through a High-Power Laser–Senior Design Project, University of Central Florida

- Designed and built a free-space optical communication system capable of transmitting digital data through open air using a laser diode and photodiode, demonstrating end-to-end digital communication from signal encoding to output display.
- Developed embedded firmware in C using Code Composer Studio on the MSP430 microcontroller, implementing data encoding and decoding logic, LED status signaling, and LCD output for real-time system feedback.
- Contributed to full hardware design including PCB layout, laser and photodiode circuit integration, and power circuit analysis, with enclosure modeling completed in Autodesk Fusion 360.
- Conducted end-to-end system testing and debugging to validate signal integrity, transmission accuracy, and hardware performance against project requirements.
- Collaborated with a four-person engineering team to manage project milestones, divide responsibilities across hardware and software workstreams, and deliver a fully functional prototype within scope and schedule.

VeggieTasks-Processes of Object-Oriented Software, University of Central Florida

- Engineered and optimized the VeggieTasks RESTful API using the MERN stack, expanding from 10 to 23 endpoints to enable seamless mobile and web integration; collaborated with database and frontend teams to align with ERD/user workflows, ensured reliability through unit testing, and documented endpoints with SwaggerHub for scalability and maintainability.

Technical Skills

Software & Tools: AutoCAD, GitHub, Wireshark, SecureCRT, Datadog, Microsoft Suite, Adobe, SwaggerHub, Code Composer Studio

Programming: C, C++, Python, Java, MATLAB, HTML, CSS, Assembly Language

Network & Communication: Digital communication systems, network configuration and monitoring, firmware deployment, TCP/IP, end-to-end connectivity, Cisco network solutions

Electrical & Embedded: PCB design, circuit analysis, embedded systems, signal integrity testing, Multisim, Autodesk Fusion 360

Testing & Validation: Factory Acceptance Testing (FAT), Site Acceptance Testing (SAT), system debugging and troubleshooting, test procedure development, hardware/software integration testing

Systems & Integration: System-level design, requirements analysis, hardware/software integration, API and network integration

Language: Proficient in Spanish (written and verbal)