Marcos Bucarito

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EDUCATION

Florida International University, Miami, Florida

Bachelor of Science in Electrical and Electronics Engineering

Minor in Computer Science   **Expected May 2026**

- GPA: 3.5

EXPERIENCE

Transforming Antennas Center, Miami, Florida

Florida International University Researcher Volunteer   **August 2024 - Present**

- Applied machine learning in Python to develop a predictive thermal analysis model, improving accuracy by 23% and enabling more reliable design validation.
- Explored applications of 2D materials to support circuit miniaturization, electromagnetic compatibility (EMC), and EMI reduction.
- Performed ANSYS static and steady-state simulations to evaluate thermal behavior, identifying design adjustments that improved thermal stability by 14%.

Zion Services Group, Miami, Florida

IT Consultant   **January 2024 - Present**

- Developed Python scripts for network automation, boosting configuration efficiency by 35% and cutting manual errors by 60%.
- Supported backend development of a Java-based fundraising management system, automating 75% of manual data entry tasks for improved efficiency.

PROJECTS

Lunabotics NASA competition, Miami, Florida

Electrical Subsystem Team Member   **August 2024 - Present**

- Led integration of electrical, mechanical, and software subsystems, reducing troubleshooting time by 30% during subsystem testing.
- Designed and validated automation protocols for sensor communication (Arduino, Raspberry Pi, UART, Wi-Fi, Bluetooth), increasing data transfer reliability by 13%.
- Built and tested power distribution and protection circuits, increasing subsystem uptime to over 95% in lunar-like environments.

Panther Motorsports – Formula SAE Team, Miami, Florida

Electrical System Team Member   **January 2025 - June 2025**

- Designed and assembled high-speed wiring harnesses and sensor interfaces in Altium Designer, ensuring 100% signal integrity during dynamic testing.
- Integrated Haltech ECU systems and digital dashboards with power relays and fuse box circuits, improving system reliability by 13% during endurance trials.
- Collaborated with mechanical and control teams to optimize vehicle telemetry, reducing sensor calibration time by 12%.

SmartCross, Miami, Florida

305 Hackathon Project Team Member   **September 2025**

- Developed an IoT-based traffic light safety system using an ESP8266 microcontroller, ultrasonic sensor, capacitive touch sensor, and LEDs to simulate pedestrian protection and enhance accessibility for visually impaired users.

TECHNICAL SKILLS

- Programming languages: C, Java, C++, Python, VHDL, SQL.
- Technical: RF/Analog Circuit Theory, EMI Mitigation, PCB Design, Lab Tool Measurements, Data Analysis, Firmware Debugging.
- Software: Ansys, NI Multisim, MATLAB, AutoCAD, Revit, KiCad, Altium Designer, Microsoft Office.