Adrian Lozada

alozada7@gatech.edu | linkedin.com/in/lozada-adrian | github.com/ADRian123L

EXPERIENCE

Software Engineer Intern May 2025 – Aug 2025
Orion Defense Solutions L.L.C. Remote

- Streamlined company workflows by designing, building, and deploying a Python/FastAPI automation platform integrated with proprietary data sources; adoption across departments reduced project cycle time by approximately one week.
- Automated complex backend tasks using Python, SQL, and LangChain to connect multiple internal systems, accelerating project delivery and providing engineers with self-service tools.
- Improved scalability and reliability by containerising microservices and orchestrating them with Docker and Kubernetes; enabled rolling updates and eliminated roughly seven hours of manual setup per week.

Undergraduate Researcher Jan 2024 – May 2025
Reality, Autonomy, Robot Experience (RARE) Lab, University of South Florida Tampa, FL

- Published two first-author papers at ACM/IEEE HRI 2025 (~25% acceptance rate) on autonomous fog-screen communication systems, contributing novel methods for robot–human interaction.
- Developed C++ ROS nodes to synchronise a Fetch robot with Arduino microcontrollers, achieving reliable distributed actuation in safety-critical scenarios.
- Designed and tested hardware–software integrated systems—including motor controllers, sensors and communication protocols—to support autonomous robotics research.

EDUCATION

Georgia Institute of Technology, Atlanta, GA 12/2026 (expected)
M.S. Computational Science and Engineering GPA: 4.0/4.0

- Relevant coursework: Advanced Operating Systems, Parallel High-Performance Computing

University of South Florida, Tampa, FL Aug 2021 – May 2025
B.S. Computer Engineering, summa cum laude GPA: 3.9/4.0

- Honors: FLIT-GAP Scholar, Florida Bright Futures Scholar
- Relevant coursework: Computer Architecture, CMOS & Lab, Embedded Systems, Computer Systems & Design, FPGA Design, Analysis & Design of Algorithms, Competitive Programming

TECHNICAL SKILLS

Languages: C/C++, Python, SQL, Bash/Zsh
Embedded/Hardware: ESP32, Raspberry Pi, FPGA, RTL design, AES-256 encryption, UART/SPI/I^2C communication, Verilog
Tools & Technologies: Linux, Git, Docker, Kubernetes, ROS, FastAPI, Flask, PyTorch
Libraries: NumPy, Pandas, SQLAlchemy, LangChain, LangFuse

PROJECTS

Senior Project: ESP32 Encrypted Radio Transmitter Fall 2024 – Spring 2025

- Designed a real-time radio transmission system using ESP32 microcontrollers that transmitted AES-256-encrypted signals every 10 ms, exceeding the expected 30 ms latency target.
- Implemented robust timing, encryption and signal protocols to ensure secure, low-latency communication over wireless links.
- Integrated hardware and software components for real-time signal processing and validated performance against stringent requirements.

Development of Autonomous Vehicle May 2024 – Aug 2024

- Led a team of seven to design and build an autonomous vehicle using a Raspberry Pi platform; mentored peers in Raspbian/Linux development and conducted code reviews, resulting in a working prototype within one summer.
- Developed a Flask backend with SQLAlchemy to expose REST endpoints for robot status, logs and commands, facilitating remote diagnostics and control.

AWARDS

- UR2PhD Technical Conference Travel Award, Computing Research Association (CRA) – $2,000 Mar 2025
- Tampa Conference Presentation Grant Program (CPGP) – $700 Mar 2025
- NSF Distributed Research Experiences for Undergraduates (DREU) – $7,000 May–Aug 2025
- FLIT-GAP Scholarship Nov 2023 – May 2025
- Florida Bright Futures Scholarship (100% tuition) Aug 2021 – May 2025