

Frank Laterza

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Embedded Software Engineer · UCF Computer Engineering Student

EDUCATION

University of Central Florida

Bachelor of Science in Computer Engineering

Orlando, FL

Expected Graduation: Dec. 2025

TECHNICAL SKILLS

Languages: C/C++, Rust, Python, Java, TypeScript, Next.js, VHDL, Verilog, GNU/Linux, Git, OOP, Data Structures

Hardware/Tools: Embedded Systems, FPGA, Eagle CAD, SolidWorks, Fusion 360, Lathe, CNC, Soldering, SMT/THT

EXPERIENCE

Apple

Software Engineer Intern

Cupertino, CA

May 2025 – Aug. 2025

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NVIDIA

GPU Firmware Engineer Intern

Santa Clara, CA

May 2024 – Aug. 2024

- Refactored security key signing software for dynamic metadata parsing allowing clients to securely update firmware images
- Contributed to GPU BIOS firmware build system for stack analysis resulting in prevention of unknown stack overflow errors.
- Released client facing tools exposing I2C event logs and faults to diagnose crashes for enterprise datacenter GPUs.

Micro Aerospace Solutions

Embedded Systems Engineer Contractor

Melbourne, FL

Jan. 2024 – May 2024

- Lead software development for NASA funded satellite mission designed to demonstrate lossless cryogenic liquid transfer.
- Leveraged multithreading to design software for flight computer to record scientific measurements and control external hardware.
- Developed software for five-layer embedded stack designed to control all sensors, heaters, and valves, and pressure transducers.
- Implemented secure encryption of mission data integrated with Rocket Lab chassis for mission telemetry.

Eta Space

Embedded Systems Engineer Intern

Rockledge, FL

June 2023 – Dec. 2024

- Implemented peripheral SPI routines for intercommunication to orbital flight computer transmitting engineering data.
- Developed crash diagnosis through error traps using I2C routines integrated with external.
- Tested software with static code analysis, custom unit testing, and simulation to ensure flight readiness.

Eta Space

Software Engineer Lead

Rockledge, FL

June 2023 – Current

- Lead software development for NASA funded satellite mission designed to demonstrate lossless cryogenic liquid transfer.
- Designed PCB to reprogram software during flight allowing custom software build

University of Central Florida's CREOL College of Optics and Photonics

Undergraduate Research Assistant

Orlando, FL

Jan. 2023 – May 2023

- Developed VHDL software for measurement of arrival of photons utilizing FPGA.
- Verified accuracy through simulation using ModelSim, resulting in 4 times the performance using timing techniques.

PROJECTS

S.P.U.D (Custom RISC-V CPU)

Aug. 2025

C, MultiSim,

- Customized 5 stage pipeline RISC-V 32bit CPU designed drive 64x64 RGB-LED display and run games written in C
- Designed custom display driver logic using protected ram buffers allocated for colored pixel values for RGB-LED Matrix
- Developed the S.P.U.D SDK for interfacing with hardware and graphics engine. TODO FILL

Dex (Self-Balancing Robot)

Dec. 2024

C/C++, Fusion 360, Eagle Cad

- Created an open-source self-balancing robot controlled over Bluetooth using Pico SDK, FreeRTOS Kernel, and BTstack.
- Leveraged multicore real time embedded software using FreeRTOS to process controls, gather sensor data, and drive motors.
- Implemented robust and responsive control system responsible for balancing through a real time feedback loop using gyroscope.
- Designed modular PCB for microcontroller, gyroscope/accelerometer sensors, motor drivers, debugging, and battery management