

Frank Laterza

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EDUCATION

University of Central Florida

Bachelor of Science in Computer Engineering

Expected Graduation: December 2024

Orlando, FL

Technical Skills

Software: C/C++ | Python | Java | TypeScript | React | Next.js | CSS | REST APIs | VHDL | Verilog | Linux | Bash | Git | OOP | Data Structures

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

EXPERIENCE

University of Central Florida's CREOL College of Optics and Photonics – Orlando, FL

Jan. 2023 – Present

Undergraduate Research Assistant

- Accomplished high-resolution measurement of optics behavior through the development of VHDL code and use of FPGA technology, achieving a time resolution of up to 2.5 ns as measured by oversampling and timing techniques
- Utilized Xilinx and Intel Quartus Prime to develop VHDL code for FPGA implementation, and verified accuracy through simulation using ModelSim, resulting in optimized performance and functionality

35 Technology Group – Orlando, FL

Sept. 2022 – Dec. 2022

Product Engineer

- Tested products designed for the F35 fighter jet and utilizing testing equipment to identify and correct inefficiencies
- Manufactured parts for product quality testing using CNC and lathe machines designed with SolidWorks, resulting in successful product evaluation

Sparrow Design – Sarasota, FL

July 2020 – Aug. 2022

System Engineering Intern

- Utilized 3D printing and CNC machining techniques to fabricate custom parts for both patented designs and valued clients
- Successfully completed multiple client projects on time and within budget, utilizing my expertise in embedded systems and software development

PROJECTS AND INTERESTS

Linux Virtual Machine

Oct. 2022

- Created a comprehensive guide for Linux users on setting up a Windows virtual machine with GPU passthrough
- Received positive feedback from users who found the guide to be clear, concise, and easy to follow, achieving over 1.8k views on accompanying YouTube tutorial video

Web Lock

Sept. 2022

- Successfully integrated C++ and JavaScript to create a robust and efficient software solution for the locking interface, resulting in increased overall performance and reliability
- Utilized Fusion 360 to design a locking mechanism for apartment door lock and ensured its reliability with multiple prototypes, resulting in a robust and fail-safe design

Projectile System

July 2022

- Accomplished successful design and implementation of an electrical system for a projectile launcher, resulting in seamless integration with the mechanical design, as measured by its efficient and reliable performance
- Utilized embedded systems programming techniques to effectively control the motor and sensors, ensuring proper firing, chambering, and safety protocols for the launcher

Web Scraping Bot

Oct. 2021

- Developed a web scraping bot with JavaScript and Node.js takes screenshots of webpages with Microsoft playwright
- Integrated bot with Discord for a successful web scraping service. Generating over 1000 successful requests, and satisfying 300 user's needs

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Association of Computer Machinery

Oct. 2021

- Enhanced skills in C++ and JavaScript by attending weekly workshops applying knowledge and skills learned to create solutions, solve complex problems, during team collaborations, resulting in successful outcomes
- Networked with fortune 500 company representatives to discuss professional opportunities and trends in their industry

Technology Student Association

Feb. 2020 - 2023

- Spearheaded the planning and execution of local, regional, and state TSA events ensuring a seamless experience for participating students and contributing to the overall success of the conference
- Led and mentored students to develop teamwork, communication, and problem-solving skills, resulting in measurable improvements in students' confidence and leadership abilities.