




Cole Rottenberg

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EDUCATION

University of Florida

Bachelor of Science in Computer Engineering

May 2025

Current GPA: 3.52/4.0

Lake Highland Preparatory School

June 2020

GPA: 4.3/4.0

RELEVANT COURSEWORK

Courses: Data Structures and Algorithms, Digital Logic, Microprocessor Applications, Signals and Systems, Circuits 1, Computational Linear Algebra, Data Science for ECE

SKILLS

Languages: C/C++, Java, Python, MATLAB, Rust, \LaTeX

Skills: Git/GitHub, Linux, Vim

Libraries: pandas, NumPy, Matplotlib, FreeRTOS, ESP-IDF

PROJECTS

Real-time IMU Data Streaming via DMA & UART | C, C++, ASM

May 2023

- Enable low latency access to IMU data through DMA coprocessor freeing CPU
- Ran CPU in sync with software enabled DMA transfers
- Redesigned data transfers architecture allowing an order of magnitude increase in speed
- Pipelined IMU data over high-speed UART stream via hardware interrupts

ClubHub | Go, TypeScript, Angular, RESTful API, Git

March 2023

- Designed and implemented a comprehensive suite of RESTful APIs, streamlining data exchange and enhancing the user experience.
- Developed a custom hashmap-based cache, achieving an accelerated club and account lookup times by a factor of 2 with frequent checks.
- Worked closely with front-end developers to ensure seamless data integration and back-end project management matched front-end.

Audio Clarity Enhancement | MATLAB, FFT

November 2023

- Analyzed corrupted audio files to detect frequency bands of corruption on a frequency domain.
- Developed precise band-pass filters tailored to isolate and amplify the target frequency range, effectively suppressing unwanted noise and interference.
- Successfully retrieved obscured messages from corrupted audio, enabling clear comprehension for listeners.

EXPERIENCE

Florida Cryptocurrency and Alternative Assets Club | Treasurer

Jan. 2022 – Present

Lead topic discussions on the cutting edge applications and research within blockchain research

AlgoGators | Quantitative Researcher

August 2023 – Present

Help lead quantitative research and algorithm development for algorithmic futures trading strategies

Blue Vigil | Intern

June 2023 – August 2023

Developed communication protocols for data transfer over RS-485 in electrically noisy environments. Implemented Reed Solomon Error-correction code alleviating communication faults due to corruption. Built fault warning systems within commercial drone lighting system on ESP-32s