




# Cole Rottenberg

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## EDUCATION

### University of Florida

*Bachelor of Science in Computer Engineering*

December 2024

*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++, Python, Go, Rust,  $\text{\LaTeX}$

**Skills:** Git/GitHub, Linux, Vim

**Libraries:** Pandas, NumPy, Matplotlib, FreeRTOS, ESP-IDF

## TECHNICAL 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

### Multi-Trend Following Strategy | *Python, NumPy, Pandas, Matplotlib*

October 2023

- Developed a strategy in Python, leveraging libraries such as Pandas for data manipulation and NumPy for numerical computations. Implemented algorithmic trading models to identify and follow profitable trends.
- Enhanced the original model by integrating advanced statistical methods for more accurate trend prediction and risk management.
- Worked closely with front-end developers to ensure seamless data integration and back-end project management matched front-end.
- Published to GitHub

## EXPERIENCE

### Florida Cryptocurrency and Alternative Assets Club | *Treasurer*

Jan. 2022 – Dec. 2023

- Lead topic discussions on the cutting edge applications and research within blockchain research
- Host guest speakers from the industry

### AlgoGators | *Assistant Portfolio Manager*

August 2023 – Present

- Developed and deployed a comprehensive Python-based application for divergent strategies, integrating SQL server for futures data retrieval across 100+ instruments. Implemented advanced analytics using exponentially weighted moving averages to generate trading signals, and designed dynamic optimization algorithms for capital-efficient position management.
- Successfully automated signal generation using cron and played a key role in system deployment on a remote server, enhancing operational efficiency and decision-making in 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