

# Cole Rottenberg

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## EDUCATION

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### Bachelor of Science in Computer Engineering

University of Florida

May 2024

GPA: 3.67/4.00

*Relevant Coursework:* Data Structures and Algorithms(Spring 22'), Digital Logic(Fall 22'), Microprocessor Applications(Spring 23'), Signals and Systems(Fall 22').

## EXPERIENCE AND PROJECTS

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### MoMa Engine(C++)

Spring 2022

*Data Structures and Algorithms*

- The MoMa Engine used an AVL Tree type Data Structures to store and access all current and past holdings of the Museum of Modern Art from a public csv file.
- The AVL Tree is a self-balancing tree which uses functions to rotate the branches of the tree to maintain an insertion and search complexity of  $O(\log(n))$

### Audio Processing(MATLAB)

Summer 2021

*Signals and Systems*

Processed corrupted audio using FFT and MATLAB, applied a band reject filter to remove noise and reconstructed the signal. Demonstrated expertise in DSP and MATLAB programming.

### FPGA-based CPU(VHDL)

Fall 2022

*Digital Logic*

- Designed and implemented a custom CPU using VHDL on a Field-Programmable Gate Array (FPGA) platform. Utilized digital logic concepts and FPGA architecture to create a fully functional CPU with basic instruction set and memory interface. I successfully tested the CPU with digital signal simulators and bread boards.

## INVOLVEMENT

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### Florida Crypto and Alt. Assets Club

Fall 2021 – Present

*Treasurer, Associate, Developer*

- Lead for team of four discussing the theoretical advantages of certain L2 coins and the future of the off-chain work, roll ups, and zero knowledge proofs. Present knowledge on topics and make recommendations for use cases.
- Developing simple dapps focused on the emerging possibilities of zero knowledge work and NFT exchange and minting.

### Theta Chi Fraternity Former Scholarship Chair

Spring 2022

- Helped organize events to raise chapter GPA and encourage brotherhood academic pursuits.

*Skills:* C/C++, Python, JavaScript, Java, ASM, VHDL, Quartus, MATLAB, SolidWorks

*Interests:* SCUBA, IoT, Blockchain(theoretical aspects)

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