

# Colton Maring

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## EDUCATION

### University of Central Florida

*Bachelor of Science in Computer Science*

Orlando, FL

Aug. 2021 - May. 2025 | **GPA: 3.74**

## WORK EXPERIENCE

### Florida Space Institute

*Software Engineer Intern*

Sep. 2024 - Present

Orlando, FL

- Developed safety-critical software for a closed-loop control system to automate movement of a 2-ton gantry crane, enabling gravity offloading and realistic lunar-weight simulations for equipment testing
- Created a full-stack web teleoperations interface using Node.js, React, Express, and secure WebSockets, enabling cross-network communication and data collection with a proprietary microcontroller programmed in C++
- Integrated Git for version control and followed Agile methodologies, collaborating with 10+ engineering interns
- Implemented a robust CI/CD pipeline with GitHub Actions and Docker for deployment on AWS

### UCF Artificial Intelligence Initiative

*Undergraduate Researcher*

June 2024 - Present

Orlando, FL

- Utilized Docker Compose to deploy Google's MediaPipe on clustered edge computing machines, facilitating inter-machine communication and data aggregation for medical training applications
- Solved computer synchrony challenges on congested networks by utilizing WebSockets and NTP, achieving sub-10ms synchronization across 9 robotic dogs for a live performance in front of 40,000+ UCF Athletics fans

### National Center for Simulation

*Lab Assistant*

June 2024 - Aug. 2024

Orlando, FL

- Wrote unit-tested automation scripts in Python and Bash and developed Java plugins for training simulation tools utilized by the U.S. Department of Defense, enhancing training efficiency for mission-critical applications
- Authored technical documentation for software systems and delivered educational presentations on their functionality, ensuring comprehension across diverse technical audiences

## PROJECTS

### Musical Training Tool | *JavaScript, ML/AI, AWS, Bootstrap*

- Led the development of Scale Sense, an online musical training platform delivering real-time musical scale feedback, implementing a deep convolutional neural network for pitch detection, with support for 40+ scales and instrument transpositions
- Awarded **3rd place** in the overall category at the KnightHacks Hackathon out of 700+ participants

### Debt Management Platform | *React, Node.js, Express, Plaid, LLMs*

- Developed a web application leveraging the Plaid API and OpenAI's APIs to analyze users' bank transactions, categorize expenses, and provide personalized suggestions for improving debt repayment plans through interactive visualizations
- Ensured protection of sensitive user data by adhering to user data safety best practices and utilizing secure protocols and authentication APIs

### Code Sharing and Storage Website | *MongoDB, Express, React, Node.js, JWT*

- Created a full-stack web application for code sharing and storage, enabling users to seamlessly upload, manage, and share code snippets or text, complete with CRUD operations and syntax highlighting for enhanced readability
- Developed REST APIs, implemented user email authentication, adhered to UI/UX accessibility standards, and created custom middleware for validating user sessions with JSON Web Tokens

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, C, C++, Bash, HTML/CSS, SQL

**Frameworks and Libraries:** Node.js, React, Express, PyTorch, Bootstrap, Electron

**Tools:** Git, Docker, AWS (EC2, SageMaker), Linux, Windows, CI/CD, Cloud Computing, Jira, Microsoft Office