

# 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

- Designed algorithms and developed software to automate precise control of a 2-ton gantry crane for equipment testing, improving testing fidelity and minimizing manual labor for clients such as NASA
- Created a full-stack web teleoperations interface using Node.js, React, Express, and secure WebSockets, enabling cross-network communication and data collection with an ESP32 MCU 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 ECS

### UCF Artificial Intelligence Initiative

Undergraduate Researcher

June 2024 - Present

Orlando, FL

- Deployed Google's MediaPipe models with Docker Compose on clustered CUDA-enabled GPUs, facilitating inter-machine communication via custom UDP protocols 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+ spectators

### National Center for Simulation

Software Engineer Intern

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
- Engineered a dynamic 3D terrain visualization and digital twin pipeline in Java and Python, capturing sandbox depth data with the Kinect SDK to render accurate topographic models
- Authored technical documentation for software systems and delivered educational presentations on their functionality, ensuring comprehension across diverse technical audiences

## PROJECTS

### Musical Training Tool | Node.js, TensorFlow, AWS EC2, Bootstrap

- Led the development of a musical training web app that delivers 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

### 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

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

- Developed a web app leveraging Plaid's APIs and GPT3.5 to analyze users' bank transactions, categorize expenses, and provide personalized suggestions for debt repayment plans alongside interactive visualizations with Chart.js
- Ensured protection of user data by employing secure environment variables, auth APIs, and session tokens

## TECHNICAL SKILLS

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

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

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