Colton Maring

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Education

University of Central Florida Expected May 2025
B.S. Computer Science *GPA: 3.68*

Relevant Coursework
Data Structures & Algorithms, Computer Logic & Organization, Robot Vision (I.P.), Software Development (I.P.)

- Proficient in advanced data structures and algorithms, including self-balancing trees, Bloom filters, tree traversal, and graph traversal
- Familiarity with algorithm design techniques such as dynamic programming, backtracking, and divide and conquer
- Demonstrated an understanding of computer design principles, including machine instructions and CPU architecture

Personal Projects

Motion Simulator Software & Platform | *Node.js, Electron, Johnny-Five*
- Created an application to control a 2 degrees-of-freedom Arduino motion simulator and view its corresponding telemetry
- Utilized the Node.js runtime and native modules to parse UDP packets and establish a serial connection to an Arduino-driven PCA9685, enabling servo control for real-time motion simulation
- Leveraged the Electron framework to display telemetry data and allow for user input

Conversation Starter Generator | *Java, Android Studio*
- Developed and launched an Android app on the Google Play Store that enhances social interactions through a smart, location-based conversation starter generator
- Integrated Google's Places API with OpenAI's GPT-3.5 API to generate location-relevant conversation starters

Stencil Creator | *Three.js, Javascript, HTML, CSS*
- Developed a responsive website to create text stencils specified by user input, utilizing the Three.js library to render the stencil in real-time
- Implemented an export function for effortless use in 3D printing and CNC applications

Course Projects

Skip List | *Java*
- Implemented a probabilistic data structure that facilitates rapid insertion, deletion, and searching operations
- Created a generic container class that can accommodate multiple data types
- Demonstrated the portability of the program by conducting testing in a standardized Linux environment

War Card Game | *C*
- Implemented the game's mechanics, enabling two players to engage in a turn-based battle
- Integrated error handling, input validation, and tested for memory errors using Valgrind to ensure the game runs without crashes

Technical Skills

Languages: Java, Javascript, C, Python
Frameworks: Node.js, Electron, Swing, Tkinter
Developer Tools: Git, Apache, Gradle, Vite, Linux, Windows, Valgrind, Cloud Computing
Hardware: Arduino, Raspberry Pi, Home Lab, 3D Printing