DECLAN MCKOEN

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Education

University of Florida **GPA: 4.00**
Bachelor of Science in Computer Science *Expected May 2026*
Relevant Coursework: Data Structures & Algorithms, Comp. Linear Algebra, Discrete Structures, Calculus, Physics

Skills

Programming Languages: C++, C, Python, Java, HTML, CSS, JavaScript, MATLAB, ARM Assembly
Developer Tools/Frameworks: Amazon Web Services (AWS), Jira, Agile Scrum Development, JUnit 5
Libraries: Regex, SFML, PyGame, Pandas, NumPy, Scikit-Learn
General Skills: Microsoft Office Suite, G Suite

Work Experience

University of Florida *Aug 2024 – Present*
Data Structures and Algorithms Teaching Assistant

- Mentored and coached fellow students who require extra assistance debugging their code or who simply need help learning data structures and algorithms via a structured framework of face-to-face office hours.
- Collaborated with colleagues to develop and maintain relevant coursework and assignments designed to enhance the performance of students in the class in hopes of improving the current pass rate.
- Assisted in the meticulous design and grading of assignments, quizzes, and exams, ensuring alignment with course objectives and maximizing student engagement in course assignments.

KidzHack *May 2024 – Aug. 2024*
Software Engineer Intern

- Collaborated with fellow interns to enhance a web-based application designed to help middle school students monitor and track their mental health to decrease depression and suicide rates by 50% in their age group.
- Led a group of colleagues in the development of a critical AWS Lambda that retrieves survey responses from DynamoDB to identify patterns in students' moods and emotions using sophisticated logic written in Python code.
- Ensured continuous integration and deployment of code to AWS using a Jira-based Agile Scrum framework.

Insightful Analysis Solutions *Jan 2024 – Jun. 2024*
Research Assistant

- Assisted with comprehensive literature reviews and data analysis to support grant proposals, ensuring alignment with funder priorities and maximizing the potential for successful funding outcomes.
- Played a key role in enhancing Insightful Analysis Solutions by providing support in company organization and contributing to the development and implementation of impactful marketing strategies, resulting in streamlined operations and increased client engagement.

Projects

AVL Tree – *C++, Catch2* *Feb. 2024*

- Developed a C++ AVL tree data structure implementation, ensuring efficient insertion, deletion, and retrieval operations for managing any kind of data type.
- Integrated comprehensive unit tests using the Catch2 unit testing framework to validate the accuracy and performance of AVL tree operations, ensuring robust functionality and error handling.

Board Buddy – *C++, Git* *Apr. 2024*

- Collaborated with a group of colleagues to conceptualize Board Buddy, a C++ project that receives chess games via chess notation, leveraging a downloaded chess game database from Lichess with over 100,000 data entries.
- Applied regex techniques to parse relevant data from the database, ensuring an accurate representation of the user-inputted game using an algorithm designed to calculate similarity scores.
- Utilized Merge Sort and Quick Sort algorithms to efficiently organize chess games based on similarity scores, enhancing user experience by delivering personalized game recommendations to augment their learning.