**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 and Algorithms, Comp. Linear Algebra, Discrete Structures, Calculus, Physics, Programming Fundamentals 1 & 2

Skills

**Programming Languages:** C++, C, Python, HTML, CSS, JavaScript, MATLAB

**Frameworks/Libraries:** AWS, Jira, Agile Scrum, Catch2, SFML, PyGame, Pandas, NumPy, Scikit-Learn

**General Skills:** Microsoft Office Suite, G Suite

Work Experience

**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 in comprehensive literature reviews and data analysis to enhance grant proposals, ensuring alignment with funder priorities and maximizing the potential for successful funding outcomes.
* Played a key role in establishing company roots by providing support in company organization and contributing to the implementation of impactful marketing strategies, ultimately resulting in streamlined operations and an uptake of 20% in clientele.

Projects

**Personal Website –** HTML, CSS, JavaScript *Apr. 2024 – May. 2024*

* Website URL: declanmckoen.github.io

**Minesweeper Clone –** *C++, SFML Library, Git Nov. 2023 – Dec. 2023*

* Developed a fully functional classic game of Minesweeper in C++ using the SFML library to output a graphical user interface and receive input.
* Structured code base and debugging processes with object-oriented programming to represent game objects, recursive methods, and front-end input to adjust the visibility of graphical elements such as mines and flags.

**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.