Ryan McPherson

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Education

University of Florida, BS in Computer Science (GPA: 3.82/4.0)　　　　**Fall 2020 - Present**
- **Awards:** Herbert Wertheim College of Engineering Dean's List (Fall 2020, Spring 2021, Fall 2021), Florida Bright Futures Academic Scholar, Wilma Foundations Textbook Scholarship

Skills

- **Languages/Frameworks/Tools:** C++, JavaScript, Node.js, React.js, Express.js, Git, Solidity, HTML, CSS, Bootstrap, Java, Python, MATLAB, Affinity Designer
- **Relevant Coursework:** Programming Fundamentals 2, Discrete Math, Data Structures and Algorithms, Computational Linear Algebra, Intro to Software Engineering, Intro to Computer Organization

Professional Experience

Frontend Software Engineer Intern　　　　**Fall 2021**
Shamrock Auto Trim • Miami, FL
- Refactored the company website's legacy code using modern UI/UX design principles, React.js, and Bootstrap to implement key features like responsive design, smooth scrolling, and animations
- Drove up the average user's time spent on the website by 150% as a result of the redesign

Software Engineering Tech Lead　　　　**Fall 2021 - Present**
UF Software Engineering Club • Gainesville, FL
- Developed in an Agile structured team of 15+ developers on Clubfinity, a mobile app built using the MERN stack that offers a single platform where all college clubs and activities are hosted and displayed
- Collaborated in a group of 4 developers on the data scrapping user story to automatically populate the app with events from other platforms resulting in a 200% increase in content on the app
- Held weekly Scrum standup with team members to discuss progress and updates on the latest task

Student Mentor & Counselor　　　　**Summer 2018**
STEM Summer Institute • Davie, FL
- Mentored over 30 young aspiring STEM students in the engineering fields of aerospace and rocketry
- Earned valuable teaching and mentoring experience through directing students in small groups of 5

Project Experience

Six Degrees of Spotify　　　　**Winter 2021**
- **Tools:** React.js, CSS, Node.js, Express.js, Jest • **Visit:** sixdos.herokuapp.com • **Repo:** six-degrees-of-spotify
- Developed both frontend and backend components of a web app that generates a graph based on Spotify's "fans also listen to" feature and finds the shortest path between 2 Spotify artists
- Constructed a RESTful API, developed a 100% coverage API testing suite with Jest, implemented a breadth-first search (BFS) algorithm, and deployed the app to Heroku's cloud service using their CLI
- Optimized the time it takes to find how closely related 2 artists are from many hours to mere seconds

AVL Tree Container　　　　**Fall 2021**
- **Tools:** C++, Catch2 • **Repo:** avl-tree
- Implemented a self-balancing AVL Tree to store users' names and id numbers to optimize the asymptotic behavior of lookup times in tree data structures from linear $O(n)$ to logarithmic $O(\log(n))$
- Designed and wrote 11 unit tests with test-driven development (TDD) at the forefront to ensure functional software for the end-user

Assignments, but Automated　　　　**Summer 2021**
- **Tools:** JavaScript, Node.js • **Repo:** assignments-but-automated
- Developed a method to automatically retrieve 100+ assignments from Canvas LMS and upload them to a Notion database to reduce the time it takes to organize the user's schedule from minutes to seconds
- Completed a code review of another developer's pull request and successfully merged the changes