

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