

Ryan McPherson

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Education

University of Florida, BS in Computer Science (GPA: 3.82/4.0)

August 2020 - Present

- **Relevant Coursework:** Programming Fundamentals 2, Discrete Math, Data Structures and Algorithms, Computational Linear Algebra, Intro to Software Engineering, Intro to Computer Organization
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Project Experience

Six Degrees of Spotify

December 2021

- **Tools:** React.js, CSS, Node.js, Express.js • **Visit:** sixdos.herokuapp.com • **Repo:** six-degrees-of-spotify
- Developed both frontend and backend components of a web app that finds the shortest path between two Spotify artists based on Spotify's "fans also listen to" feature
- Constructed a RESTful API to return the computed shortest path and random artists from the database
- Implemented breadth-first search (BFS) on an unweighted, undirected graph with ~10,000 vertices representing artists and ~100,000 edges representing a connection via the "fans also listen to" feature

AVL Tree Container

October 2021

- **Tools:** C++, Catch2 • **Repo:** avl-tree
- Implemented a self-balancing AVL Tree to store users' names and id numbers to solve the issue of slow lookup times in tree data structures, thus reducing linear lookup times to logarithmic
- Wrote 11 unit tests with the Catch2 framework to ensure each tree method functioned as intended

Assignments, but Automated

September 2021

- **Tools:** JavaScript, Node.js • **Repo:** assignments-but-automated
- Developed a method to automatically retrieve 100+ assignments from Canvas LMS and post them to a Notion database for convenience and quick references
- Executed various GET and POST HTTP requests through publicly available SDKs

Portfolio Website

July 2021

- **Tools:** HTML, CSS, JavaScript • **Visit:** ryanmcpherson.info • **Repo:** ryan-mcpherson-portfolio
 - Designed and developed a portfolio website to display my projects, résumé, and contact information
 - Implemented features including responsive design, form submission, and on load and scroll animations
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Work Experience

Tech Lead, Software Engineering Club (SEC)

September 2021 - Present

University of Florida, Gainesville, FL

- Developed in a team of over 15 developers on Clubfinity, a mobile app built using the MERN stack that offers a single platform where all college clubs and activities are listed for user convenience
- Collaborated in a group of 4 developers on the data scrapping feature to automatically populate the app with club information from separate platforms like Discord, Google Calendar, Slack, and Facebook

Student Mentor, STEM Summer Institute

My 2018 - June 2018

Western High School, 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
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Skills

- **Programming Languages:** C++, JavaScript, HTML, CSS, Java, Python, MATLAB
- **Frameworks:** React.js, Express.js, Catch2
- **Software:** Git, Node.js, Postman, Affinity Designer