

Jacob Tucker

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EDUCATION

Northwestern University

GPA: 4.00/4.00

B.A Computer Science

Expected Graduation: 2023

- Selected Courses: Web Development, Algorithms, Linear Algebra

EXPERIENCE

Decentology

September 2020 - Present

Software Architect & Blockchain Developer

- Constructed a new platform that kickstarts developers in creating decentralized applications on the blockchain by allowing them to design their own Non-Fungible Token (NFT) digital collectibles, games, and marketplaces with out-of-the-box code.
- Architected & implemented the smart contracts, transactions, and scripts in Cadence that are needed to handle the minting, trading, and storage of NFT metadata on the blockchain.
- Actively serving as the lead Cadence developer and introducing the language to team members.

Undergraduate Teaching Assistant

April 2020 - June 2020

Northwestern CS211

- Helped instruct a Computer Science course in C/C++ and oversaw the completion of final projects.

PROJECTS

MusicLifev2 (musiclifev2.netlify.app)

September 2020

Personal Project

- Created the ability for users to add songs to a general database and a personalized library, create playlists, join/create communities, chat in communities about the topics they promote.
- Successfully stored all data and user-specific information inside of a Cloud Firestore, which also handles user authentication.
- Used React-Redux to handle client-database communications and the overall state of the application.
- Completely redesigned an old project (MusicLife) to make the platform cleaner and visually appealing.

SpotifyAid (spotifyaid.netlify.app)

August 2020

Personal Project

- Built a Spotify tool that allows users to view & manage their profile, their playlists, followers, the artists they follow, their tracks, and more.
- Made GET/POST requests to the Spotify Web API to retrieve statistical data on any track a user would like to look up, along with their own top tracks & artists.
- Implemented Spotify user authentication tokens in Node.js by making GET/POST requests to Spotify's REST API and storing the access/refresh tokens in browser cookies.

Search Algorithm Tool (searchalgorithmtool.netlify.app)

July 2020

Personal Project

- Implemented a visual tool for learning graph search algorithms.
- Utilized React.js hooks that handled the state of the walls, the nodes currently being searched, the discovered nodes, and the start & endpoint simultaneously.
- Wrote 5 graph traversal algorithms, including A*, Dijkstra (with and without a Binary Heap), Greedy Best-First Search, and Depth-First Search using priority queues and other data structures.
- Programmed a maze generator using recursive division along with a random maze generator.

SKILLS

Front-end: React.js, JavaScript, HTML5, CSS3, Sass, Axios

Back-end: Node.js, MongoDB (NoSQL), REST APIs, JSON, Python, Socket.io, JWT

Other Languages/Tools: C++, C, Cadence, DSSL2, Docker, Git, Heroku, Netlify