

Brian Pak

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EDUCATION

Georgia Institute of Technology | Atlanta, GA

Expected: May 2024

B.S – Computer Science, Concentrations: Intelligence & Media

Coursework: Data Structures & Algorithms (Java & C++), Information Visualization, Computer Organization & Programming, Object-Oriented Programming, Intro to AI, Intro to Robotics & Perception, Combinatorics

SKILLS

Languages: Java, JavaScript, HTML/CSS, C, SQL

Technologies: Git, React, SST, Axios, Next.js, Tailwind CSS, Chakra UI, Spring Boot, REST APIs

PROJECTS

Spotify Jukebox | *SST, Axios, Spotify API, Chakra UI, WebSockets API*

August 2022 - Present

- Spearheaded the implementation of seven RESTful API endpoints using **Axios** and **AWS Lambda**, providing users with the ability to play songs through **Spotify API**.
- Implemented the **OAuth** Authorization Code Flow with PKCE to securely verify a host user's Spotify account before beginning a music session.
- Maintained real-time data of 'up-votes' and 'down-votes' of jukebox song queues with **WebSockets API**.
- Redesigned the user interface for the local song queues using **Chakra UI**, providing users with an improved experience with adding/removing songs from the jukebox queue.

BuzzConnect | *Spring Boot, React, SQL*

August 2022 - December 2022

- Developed a full-stack **React** application in an Agile development process to assist students in exploring current student events on Georgia Tech's campus.
- Designed and maintained a RESTful API with over 15 endpoints using **Spring Boot**, allowing successful transfer of user and event data.
- Modeled relationships between four different functional classes using **Spring Boot JPA**, allowing the development team to easily maintain and store data in a local **MySQL** database.

Unix Utilities | *C*

June 2021 - August 2021

- Built a collection of 8 **Linux/UNIX** command-line commands, including head, tail, env, and wc.
- Employed **C Standard Library** Functions to make system calls to the Linux Kernel, allowing the implementation work directly with the device's operating system.

Stranger Things Showdown | *C*

June 2022 - August 2022

- Programmed a Stranger-Things-themed rock, paper, scissors video game for the Gameboy Advance, hosted on an emulator provided through a Docker container.
- Encoded graphics for 7 protagonists and background scenery by manipulating direct memory access functions provided with **C programming**.

EXTRACURRICULARS

GT WebDev | Student Developer

August 2022 - Present

- Optimized the runtime of three API endpoints through pair-programming sessions, reducing them by at most 40%.
- Conducted four code reviews with the API team on Github pull requests, preventing six potential bugs.
- Designed the Authentication service and Search songs functionality by composing two technical design documents, informing other team members about using Spotify API and its potential challenges.