

Brian Pak

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EDUCATION

Georgia Institute of Technology | Atlanta, GA

Expected: May 2024

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

GPA: 3.56

Coursework: Data Structures & Algorithms, Design & Analysis of Algorithms, Machine Learning, Computer Animation, Information Visualization, Object-Oriented Design

EXPERIENCE

Ridgeline | Software Engineer Intern

June 2023 - August 2023

- Prototyped a GraphQL-based trade alert notification service with Amazon SNS and AWS Lambda to support over 600 traders when tending to over \$2 million in critical transactions.
- Deployed over six scalable APIs for maintaining sound effects and alert preferences using AWS S3, Amazon RDS, and Python, currently in use to scale the notification service to the entire application.
- Constructed the user interface for the application's trade notification settings page using React and Typescript, resulting in a seamless user experience and streamlined customization of alert preferences.

GT Center for Music Technology | Student Software Developer

January 2023 - Present

- Reconstructed the user interface from deprecated Vue to React Typescript for the web-interface of Mixboard, a mobile app that provides users with the ability to combine multiple song tracks.
- Designed and implemented an audio scheduling algorithm using the Web Audio API to generate and deliver audio mashups to a global network of 200 beta testers.
- Integrated HTML Drag & Drop API to enable seamless movement of Spotify tracks when combining songs across the web interface.
- Orchestrated a robust user authentication and session management system using Firestore and the Firebase Javascript SDK, safeguarding of confidential user data.

PROJECTS

Rocola (Jukebox) | *Next.js, React Typescript, DynamoDB, AWS Lambda*

August 2022 - December 2023

- Constructed two Node.js-based microservices to orchestrate over 30 real-time jukebox sessions using Amazon API Gateway, WebSockets API, and DynamoDB.
- Revamped the application's user interface to Next.js framework, leveraging server-side rendering techniques to reduce FCP scores and other performance metrics by 23%.
- Integrated OAuth Authorization Code Flow with PKCE Extension to securely verify a host user's Spotify account before beginning a music session.

BuzzConnect | *Spring Boot, React, SQL*

August 2022 - December 2022

- Spearheaded the development of the application's 20 RESTful API endpoints using Spring Boot, allowing successful transfer of user and event data.
- Provided a responsive design to the user interface by applying CSS Container Queries to the application's 4 webpages, allowing the UI to fit any screen.
- Modeled relationships between 4 functional classes using Spring Boot JPA, allowing the development team to easily maintain and store data in a local MySQL relational database.
- Leveraged the GT Places API through Axios HTTP client to help events to locations throughout Georgia Tech's campus.

SKILLS

Languages: Python, Typescript, HTML, CSS, Javascript, Java

Technologies: React, Next.js, Git, Node.js, Chakra UI, DynamoDB, GraphQL, AWS Lambda, AWS S3, AWS RDS, Amazon SNS, REST APIs