

Jason C. Gao

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EDUCATION

Georgia Institute of Technology

Master of Science, Human Computer Interaction

August 2024 – May 2026

Bachelor of Science, Computer Science

August 2019 – May 2023

Minor in Music Technology

Cumulative GPA: 3.91

SKILLS

Languages: TypeScript, JavaScript (React.js, Node.js, express.js), Python, Java, C#, SQL, HTML, CSS

Tech: AWS, Git, Docker, MySQL, Elasticsearch, Linux, Figma, Adobe Creative Suite, APIs (REST, GraphQL), Jira

WORK EXPERIENCE

Freelance Full Stack Developer – RM Speaking Inc.

August 2023 – October 2023

- Developed and deployed a TypeScript React.js app using AWS Amplify that transforms user-uploaded videos into music videos by procedurally generating audio based on content detected with computer vision.
- Deployed on cloud infrastructure using EC2 server instances, AppSync GraphQL API, with data stored using S3.

Back End Developer Intern – IBM

June 2022 – August 2022

- Developed a full stack app displaying a knowledge graph of system error logs for faster error tracing.
- Deployed an OrientDB graph database queried using SQL for rapid access to log relationship data..
- Deployed an ElasticSearch NoSQL document database using Lucene queries to retrieve all user-generated error log data within specified timeframes and parameters.
- Built a REST API for front end to database communication using express.js in Node.js.
- Developed a React.js front end based on IBM component libraries to streamline visual navigation of log relationships..

Research Assistant – Institute for People and Technology @ Georgia Tech

June 2021 – May 2022

- Used C# to develop a testing interface for a study on using Augmented Reality to help focus in distracting scenarios.

PROJECTS

Spotify Karaoke

November 2023 – February 2024

- Designed a front end using TypeScript, React.js, and styled-components to allow users to seamlessly search Spotify songs and display generated smooth scrolling karaoke tracks.
- Developed Python ETL data pipeline to extract and standardize data from multiple sources including Spotify metadata, YouTube videos, and a Lyrics API before loading into Amazon S3 cloud storage as a data lake.
- Deployed on AWS cloud architecture using EC2 virtual servers running Docker containers managed with ECS container management, with GraphQL API deployed using AWS AppSync for rapid access to stored data.
- Automatically generates word-synchronized karaoke tracks using OpenAI's Whisper speech-to-text transcription and Deezer's Spleeter source-separation Python libraries, and a custom dynamic programming based alignment algorithm.

Music Notation Editor

August 2022 – December 2022

- Developed a graphical UI using Java and the Swing library that allows users to write and play back musical scores.

Drone Grocery Delivery Database

January 2021 – May 2021

- Designed and implemented a relational database, tables, stored procedures, views, and queries to model a hypothetical drone grocery delivery service using MySQL relational database queried with SQL.