Jason C. Gao

https://jasoncgao.com/   (470) 293-0418
https://www.linkedin.com/in/jasoncgao/   jasongao678@gmail.com

EDUCATION

Georgia Institute of Technology

Bachelor of Science, Computer Science   August 2019–May 2023
Minor in Music Technology
Cumulative GPA: 3.91
Faculty Honors (4.00 GPA)   January 2020–May 2023

Coursework

Data Structures & Algorithms, Objects & Design, Computer Organization & Programming, Design & Analysis of Algorithms, Database Systems, Computer Graphics, Linear Algebra, Multivariable Calculus, Probability & Statistics, Discrete Math, Combinatorics, UI Software, Human Computer Interaction (HCI), Computer Audio, Educational Technology, Research Methods, Social Psychology, Video Game Design, Music Recording & Mixing, Computer Music Composition

SKILLS

Programming: TypeScript, JavaScript (React.js, Node.js, express.js), Python, C#, SQL, HTML, CSS, Max MSP
Technologies: AWS, Git, Docker, MySQL, Elasticsearch, OrientDB, Linux, Figma
Skills: APIs (REST, GraphQL), multithreading, networking, Agile Methodology
Languages: English (Native), Mandarin (Professional)

WORK EXPERIENCE

RM SPEAKING INC. – Freelance Web Developer   **August 2023–September 2023**
- React.js app using AWS Amplify to authenticate users and host a video sonification platform that intakes uploaded videos and returns a video with AI generated music based on the content of the video.
- Sonification service containerized using docker and deployed in AWS ECS on EC2 instances.
- Realtime WebSocket based GraphQL API developed and deployed using AWS AppSync.
- Asynchronous and multiprocessing based Sonification server developed in Python to handle scaling with multiple clients.

Back End Developer Intern – International Business Machines (IBM)   **June 2022–August 2022**
- Full stack app displaying a knowledge graph of system error logs for intelligent error tracing.
- OrientDB NoSQL graph database using SQL-similar queries to get log relationship information.
- ElasticSearch NoSQL document database using Lucene queries to get log instance data.
- Node.js backend in express.js to develop RESTful API for frontend-to-database communication.
- React.js frontend using IBM Carbon component library to display how different logs relate to each other.

AR/VR Research Assistant – Georgia Institute of Technology   **June 2021–May 2022**
- Collaborated with HCI and psychology experts on ways for VR/AR to help people focus in highly distracting environments.
- Engineered complex 3D scenario in Unity3D using C# to implement a highly distracting VR environment.
- Developed different methods of diminishing audio and spatial distractions in VR.

PROJECTS

Spotify Karaoke   **July 2023–Present**
- Full stack app that lets users connect their Spotify account, search for a song with English lyrics listed in Spotify, and then automatically generate real time karaoke captioning and a vocaless track.
- Frontend in React.js, processing and data in Python, using a dynamic programming approach to synchronize lyrics
- Powered by OpenAI's Whisper ML model for speech-to-text transcriptions and Deezer's Spleeter source-separation model.

Robotic Musicianship Lab   **January 2021–May 2023**
- Developed Python, bash, and C++ scripts to aid in a pipeline for transcribing audio files to piano sheet music.
- Designed GUI for choreographing 12 dancing robot arms using Python and JavaScript using Flask and Vue.js frameworks.
- Created app to help deaf people enjoy music through haptics, visuals, and robotic dance using C# and React.js JavaScript.