Jason C. Gao

https://jasoncgao.com/

https://www.linkedin.com/in/jasoncgao/

(470) 293-0418

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

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

Freelance Web Developer – RM SPEAKING INC.   August 2023–September 2023

- Developed and deployed a 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.
- Developed Video-to-music service using Python, containerized using docker and deployed on AWS EC2 instances.
- Built Realtime WebSocket based GraphQL API and deployed using AWS AppSync.

Back End Developer Intern – International Business Machines (IBM)   June 2022–August 2022

- Developed a full stack app displaying a knowledge graph of system error logs for intelligent error tracing.
- Set up an OrientDB NoSQL graph database using SQL-similar queries to get log relationship information.
- Set up an ElasticSearch NoSQL document database using Lucene queries to get log instance data.
- Built a RESTful API for front end-to-database communication using Node.js.
- Developed a React.js frontend based off existing IBM components 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 to develop ways for using AR/VR to focus in distracting environments.
- Implemented the highly distracting VR testing scenarios in Unity3D using C#.
- Tested and implemented different methods of diminishing audio and spatial distractions in the VR environment.

PROJECTS

Spotify Karaoke   July 2023–December 2023

- Designed and deployed a 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 with an instrumental track.
- Developed the front end in React.js, data processing pipeline in Python, and API using GraphQL, all deployed on AWS.
- Powered by OpenAI's Whisper speech-to-text transcription model 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 with Vue.js frameworks.
- Created app to help Deaf users enjoy music through haptics, visuals, and robotic dance using C# and React.js JavaScript.