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

Programming: TypeScript, JavaScript (React.js, Node.js, express.js), Python, Java, C#, SQL, HTML, CSS
Tech: AWS, Git, Docker, MySQL, Elasticsearch, Linux, MUI, Figma, Adobe Creative Suite, Miro, Qualtrics, Jira

WORK EXPERIENCE

Software Engineering Intern – American Gaming Systems   **May 2024 – August 2024**
- Performed contextual interviews, walkthroughs with game designers to evaluate current game design flow, pain points.
- Used qualitative data to prototype a web-based game design engine in Figma to streamline the design process.
- Developed the tool using TypeScript, React.js, Material UI component libraries as a responsive web app on internal servers for designers to use on any device.
- Developed a unified Node.js TypeScript library for wrapping OpenAI DALL-E and Stable Diffusion image generation, prompt engineering, and image editing so designers can more quickly prototype with placeholder assets.
- Evaluated the interface with designers at multiple stages of the development process through walkthroughs, interviews to iteratively prototype and respond to changing user needs and features

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 ElasticSearch NoSQL document database using Lucene queries to retrieve error log data within timeframes.
- 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# and Unity3D to develop a VR testing interface for a study on using AR to help focus in distracting scenarios.
- Interface facilitated within-subjects experimental design where participants were exposed to varying levels of distractions with randomization and counterbalancing.
- Collected quantitative data through cognitive tasks performed while using interface and through retrospective surveys.
- Used data to inform design of VR and AR interfaces for iterative development.

PROJECTS

Spotify Karaoke   **August 2023 – December 2023**
- Designed a front end using TypeScript and React.js to search Spotify songs and display scrolling karaoke lyrics, audio.
- 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.