Ryan Yuki Huang

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EDUCATION

Brown University Providence, RI | Expected Graduation: May 2026
Concurrent B.S. and M.S. in Computer Science GPA: 4.0/4.0

- **Relevant Courses:** Data Structures & Algorithms, Deep Learning, Linear Algebra, Discrete Mathematics, Computer Systems, Software Engineering, Graduate Computer Vision, Statistical Inference, Algorithms, Statistical Inference
- **Honors/Awards:** Undergraduate Teaching & Research Award, Hack@Brown 2024 Winner, Regeneron STS Semifinalist

TECHNICAL SKILLS

Languages: Python, Java, HTML/CSS, R, JavaScript, TypeScript, Go, C/C++, C#, SQL, Ruby
Technologies: ReactJS, NodeJS, Flask, Redux, Docker, Hadoop, Apache Spark, MongoDB, Scikit-learn, MySQL, Git, Bash, Linux

EXPERIENCE

ModernVivo, *LLM/AI Software Engineer Intern* Seattle, WA | December 2023 – Present

- Integrated an LLM-guided system that semantically clusters texts with **97%** accuracy into the **Django** backend, allowing customers to effectively filter searches for clinical trials (**Best Paper Runner-up at GLOW @ IJCAI 2024**)
- Utilized **multithreading** to run OpenAI requests in the system concurrently, decreasing clustering times by **55%**
- Incorporated **Google BigQuery** to store large text datasets, and utilized it to test the clustering system

Google, *Research Software Engineer Fellow* Sunnyvale, CA (Remote) | September 2023 – December 2023

- Developed a scalable deep learning pipeline in **PyTorch** for image understanding and classification, achieving **87%** accuracy by using topological data analysis and a Convolutional Neural Network
- Implemented an interactive **React** app to display how the **AI model** interprets the images for user visualization
- Conducted extensive performance and unit testing using Deepchecks, ensuring reliability across diverse datasets

Full Stack @ Brown, *Full Stack Developer* Providence, RI | August 2023 – May 2024

- Developed a full stack **Django** site for Brown's annual puzzlehunt using **React**, **Python**, and **PostegreSQL**
- Implemented **user authorization** to securely store data and progress in the competition for **5,000+ participants**
- Set up **RESTful API** hooks for users to submit puzzle answers, which were securely validated on the backend
- Utilized **Selenium** to write end-to-end tests ensuring smooth user experience and verifying functionality

Brown Visual Computing Lab*, Undergraduate Research Assistant* Providence, RI | Aug 2023 – Present

- Created a shape editing system that lets users augment 3D furniture meshes with natural language by leveraging Chain-of-Thought prompt requests to the OpenAI API (**Accepted to SIGGRAPH Asia 2024**)
- Rendered edited meshes into **Blender** with **Python** scripts and a web app via **WebGL** with **JavaScript** for visualization
- Contributed to developing a novel 3D mesh generation method usisng **Python** and **R** (Published in **bioRxiv**)

PERSONAL PROJECTS

MemoTech *Python, Flask, TypeScript, React, Redis, MongoDB*

- **Won 1st Place out of 300+ Participants at Hack@Brown 2024** for a **React** application that provides detailed feedback for users' answers to flashcards using OpenAI API
- Integrated flashcard recommendation by storing embeddings in **MongoDB** and creating a vector search endpoint
- Deployed database onto **AWS EC2** Instance through MongoDB Atlas, supporting backend for **200+ users**

Pokémon GAN (Gotta generate 'em all) *Python, Tensorflow, Spark*

- Created a DCGAN in **Tensorflow** with **Python** to generate synthetic Pokémon images with an FID of 126.7
- Employed **Apache Spark** for distributed preprocessing of large Pokémon datasets, enhancing training efficiency

MedChat *Java, Spring Boot, TypeScript, React, Firebase*

- Developed front-end and back-end for a patient interaction **full stack** application for easy procedural check-ins
- Text, updates, and checklist functionalities were implemented and stored using **Firebase**
- Developed and integrated a **RESTful API**, enabling seamless retrieval and management of patient data