

Ryan Yuki Huang

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EDUCATION

Brown University

Providence, RI | Expected Graduation: May 2026

Bachelor of Science in Computer Science

GPA: 4.0/4.0

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

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C/C++, HTML/CSS, SQL, Go, R

Technologies: React, Node, Flask, Docker, MongoDB, AWS, PyTorch, MySQL, PostgreSQL, Git, Bash, Linux, Blender

EXPERIENCE

Google, *Software Engineer Intern, YouTube Comments Team*

San Bruno, CA | May 2025 – Present

- Building infrastructure for Google DeepMind's new **machine translation** model on YouTube comments in **C++**
- Integrating UI elements in **TypeScript** to support a multilingual experience in the YouTube comments section for **2 billion users**, supporting all iOS, Android, and Web clients across all apps including YouTube, YT Studio, and YT Music

Amazon Robotics, *Software Development Engineer Intern, Movement Team*

Boston, MA | Jan 2025 – May 2025

- Developed a **React** app to dynamically monitor and configure **10,000+ autonomous robots** in Fulfillment Centers
- Designed new **RESTful APIs** that retrieve and modify robot configurations in the **DynamoDB** database, including endpoints for real-time data monitoring, comparing robot models, and editing configurations
- Created scalable infrastructure in **Java** using **AWS Lambdas** to call the APIs and **AWS SNS topics** and **SQS queues** to get real-time metadata updates, allowing administrators to retrieve data **62% faster**

ModernVivo, *AI/ML Software Engineer Intern*

Seattle, WA | Dec 2023 – Jan 2025

- Created and deployed an LLM-guided system in **Python** that semantically clusters texts from the **PostgreSQL** database with **97% accuracy**, allowing customers to find clinical trials (**Best Paper Runner-up at GLOW @ IJCAI 2024**)
- Utilized **multithreading** to run **OpenAI API** 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

Brown Visual Computing Lab, *Machine Learning Research Intern*

Providence, RI | Sep 2022 – Present

- Created a shape editing system in **Python** 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 using **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 the **OpenAI API**
- Made flashcard recommendation by storing embeddings in **MongoDB** and creating **Flask** vector search endpoints
- Deployed database onto **AWS EC2** Instance through MongoDB Atlas, supporting backend for **200+ users**

Brown Puzzlehunt

React, TypeScript, Python, PostgreSQL

- Developed a website using **Django** and **React** for Brown's annual puzzlehunt with over **5,000+ participants**
- Designed and implemented **user authentication** and **authorization** to protect user data and session integrity
- Set up **RESTful API** hooks for users to submit puzzle answers, which were securely validated on the backend

Pokémon GAN (Gotta generate 'em all)

Python, PyTorch, Spark

- Created a DCGAN in **PyTorch** 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