

# Ryan Yuki Huang

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## EDUCATION

### Brown University

Providence, RI | Expected Graduation: 2026

*Bachelor of Science in Computer Science*

GPA: 4.0/4.0

- **Relevant Courses:** Data Structures and Algorithms, Intro to Object-Oriented Programming, Discrete Mathematics, Multivariable Calculus, Statistical Inference, Linear Algebra, Intro to Software Engineering, Artificial Intelligence
- **Honors/Awards:** Google CSRMP 2023B Scholar, PLME SRA Research Award (2023), Regeneron STS Scholar (2021)
- **Leadership Positions:** Software Engineering Lead of Brown Applied Computing

## TECHNICAL SKILLS

**Languages:** Python, Java, HTML/CSS, R, JavaScript, TypeScript, SQL, MATLAB, familiar with: C/C++, Dart

**Technologies:** Git, ReactJS, ExpressJS, MongoDB, Jupyter Notebook, scikit-learn, Flutter, AWS, Bash, Unix

## EXPERIENCE

### Full Stack @ Brown, Full Stack Developer

Providence, RI | August 2023 – Present

- Hosted Brown's annual puzzlehunt with 5000+ participants by developing an interactive Django website | **Python**
- Assembled interactive and dynamic web animations for Brown's puzzlehunt website planned using Figma | **HTML/CSS**
- Enabled fast and secure puzzle unlock structure by implementing PostgreSQL with the backend team of 5

### Zymolo, Software Engineering Intern @ Biotech Startup

San Diego, CA | May 2023 – Aug 2023

- Spearheaded a responsive full stack website for the company using the Agile framework | **ReactJS, NodeJS**
- Developed an automated service to organize and access gene sequence data from the company database; implemented caching to facilitate search queries from researchers, decreasing access times by 52% | **Python**
- Helped create a Django RESTful API microservice able to help thousands of potential users/customers

### Brown University ML Research Lab, Undergraduate Researcher @ Crawford Lab

Providence, RI | Aug 2022 – Present

- Built a pipeline to classify breast cancer subtypes using topological data analysis and machine learning on H&E stain image data, achieving 5% higher accuracy; currently in-use by 10 people in the lab | **Python, R**
- Implementing an interactive viewer for pathology images fetched from the Cancer Imaging Archive | **ReactJS**
- Scripted a graph-based algorithm to generate alpha shapes for a point cloud, resulting in 10% faster generation | **R**

## PERSONAL PROJECTS

### PaperPilot | Typescript, Flask, Firebase, Redis

- Launched an application designed to identify the most closely related research papers to a given paper
- Pre-processed research papers from Pubmed, arXiv, etc. into embeddings via Doc2Vec to prepare for paper queries
- Implemented Redis caching to store prior search queries and a database to store bookmarked research papers

### Stocks Trading Robot | Python

- Built a trading bot designed for automating trading strategies using the TD Ameritrade API
- Implemented a portfolio object that handles positions in a stock portfolio and calculates risk metrics/profitability
- Created an object to handle indicators, such as the moving average and relative strength index, from prior and current real-time prices in the market

### PathPerfect | ReactJS, ExpressJS, MongoDB

- Created a full stack application for people to find a unique and scenic path to jog given an input distance; jog path was displayed on a map using the OpenStreetMap API
- Stored prior distances in MongoDB to improve modified A\* algorithm for future search inputs

### MedChat | Dart, C++ (Flutter)

- Developed front-end and back-end code for a doctor/patient interaction app for easy procedural check-ins in Flutter
- Text, updates, and checklist functionalities were implemented and stored using Firebase
- Conceptualized dynamic front-end design and layout of the app for accessible use by both patients/doctors in Figma
- Currently in-use by the Rhode Island Hospital and Brown Dermatology Department (1,000+ users)