

Michelle Liu

☎ (775) 772-8748 | ✉ michelle_h_liu@brown.edu | 🔗 michelleliu-4 | 🐙 michelleliu4 | 🌐 michelleliu4.github.io

EDUCATION

Brown University

Bachelors of Science, Applied Math – Computer Science, GPA: 4.00

Expected May 2025

Providence, RI

- **Relevant Courses:** Machine Learning, Deep Learning, Computer Systems, Data Structures & Algorithms, Web Development, Numerical Methods, Partial Differential Equations, Operations Research, Game Theory, Graph Theory

EXPERIENCE

JPMorgan Chase & Co.

Software Engineer Intern

June 2023 – Present

Jersey City, NJ

- Create real-time dashboard utilizing **React** to visualize call center data, supporting over **50,000 users**
- Construct call data pipeline integrating Splunk and **AWS** to facilitate development of machine learning classification models
- Achieved over 90% accuracy in predicting call failures using frameworks such as **Tensorflow**, **scikit-learn**, and **matplotlib**

Brown University

Undergraduate Teaching Assistant

Aug 2022 – Present

Providence, RI

- Develop assignments for **natural language processing**, **machine learning**, statistics, and functional programming courses
- Organize and lead collaborative workshops to reinforce conceptual ideas and address challenging problems
- Support over **300 students** through moderating online question forum and providing office hour assistance

Visual Prosthesis Lab

Undergraduate Research Assistant

Sep 2022 – Dec 2022

Providence, RI

- Research and implement **computer vision** frameworks in **Python** to assist visually impaired individuals with navigation
- Develop visual prosthetic devices with object localization utilizing YoloV5, grasping utilizing Text2Voice, and OCR

Western Digital

Software Development Engineer Intern

May 2022 – Aug 2022

Milpitas, CA

- Designed test prioritization algorithm using **Python** and **machine learning**, increasing test cycle efficiency by over 50%
- Constructed regression, random forest, XGBoost, and neural network models to predict test failures with 95% accuracy
- Utilized **FastAPI** and **SQL** queries to access and post algorithm performances on **Elasticsearch**

PROJECTS

Jreamboard | React, Node.js, JavaScript, Express 🌐

- Created a podcast and audio-based social media web application for the Jream Foundation
- Prototyped frontend using **Figma** and implemented UI using **React**, designing a login and audio posts page
- Constructed backend architecture using **Express** and **PostgreSQL** to store audio and account information

Senate Environmental Vote Clustering | Python 🔗

- Employed k-means, hierarchical, and spectral clustering to analyze and identify patterns in senator environmental voting
- Utilized **Python**, **NumPy**, **scikit-learn**, **SciPy**, and **pandas** to visualize and process the voting data

Caching I/O | C

- Designed caching system for file reading and writing, running **31%** faster than C's standard library

Search Engine | Python

- Designed search engine for xml wiki files in a closed environment replicating Google's PageRank algorithm
- Optimized search results based on weighted graphs between pages and tf-idf relevance

ACTIVITIES & AWARDS

Applied Math Dept. Undergraduate Group | President

Mar 2022 – Present

Brown Machine Intelligence Community | Executive Board Member

Oct 2022 – Present

Anime Video Game Ensemble | Co-President & Founder

Sep 2021 – Present

Jane Street FFTP Electronic Trading Challenge 3rd Place

2022

Robinhood Hackathon for Social Good Bronze Award 🏆 🔗

2022

AIME Qualifier

2018, 2021

SKILLS

Languages: Python (proficient); JavaScript, HTML, CSS, ReasonML, (intermediate); C/C++, Java, SQL, MATLAB (novice)

Frameworks & Tools: Git, NumPy, TensorFlow, React, Figma, WordPress, Microsoft Office, Agile, Jira

Interests: Rock climbing, aerial silks, piano, music arrangement