

Michelle Liu

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EDUCATION

Brown University

Expected May 2025

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

Providence, RI

- **Relevant Courses:** Machine Learning, Deep Learning, Computer Systems, Data Structures & Algorithms, Honors Statistics, Graph Theory, Abstract Algebra, Numerical Solutions of PDEs, PDEs, Operations Research
- **UNR Dual Enrolled High School Courses:** Game Theory, Topology, Analysis, Number Theory, Calculus III, Linear Algebra

EXPERIENCE

JP Morgan & Chase

June 2023 – Aug 2023

Incoming Software Engineer Intern

New York, NY

Brown University

Aug 2022 – Present

Undergraduate Teaching Assistant

Providence, RI

- Develop projects and exams for **NLP**, **graduate-level machine learning**, statistics, and functional programming courses
- Lead and organize collaborative workshops to reinforce conceptual ideas and discuss challenging problems
- Support students by moderating online question forum and assisting over **300 students** in office hours

Visual Prosthesis Lab

Sep 2022 – Dec 2022

Undergraduate Research Assistant

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

May 2022 – Aug 2022

Software Development Engineer Intern

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

Citadel Datathon | Python, NumPy, pandas 🐙

- Collaborated with team members to analyze geographical discrimination of loan applications using k-means clustering
- Utilized **NumPy**, **pandas**, seaborn, SciPy, and other Python libraries to construct visualizations

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

Full Stack at Brown | Full Stack Developer

Feb 2022 – May 2022

Doyle Foundation Scholarship

2021, 2022, 2023

Robinhood Hackathon for Social Good Bronze Award 🏆 📄

2022

AIME Qualifier

2018, 2021

SKILLS

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

Frameworks & Tools: Git, NumPy, TensorFlow, React, Figma, WordPress

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