Michelle Liu

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

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 May 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 **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**

Jane Street Mar 2022
First-Year Trading and Technology (FTTP) Fellow *New York, NY*
- Selected as one of 60 students for this highly competitive program to learn market-making and algorithmic trading
- Programmed trading bot in **Python** leveraging arbitrage and bond pricing to place **3rd in electronic trading competition**

PROJECTS

Jreamboard | *React, Node.js, JavaScript, Express* 🔗
- Created a podcast social media web application for the Jream Foundation at the JP Morgan **Code for Good Hackathon**
- 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

Search Engine | *Python*
- Designed search engine in a closed environment replicating Google's PageRank algorithm with 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
Robinhood Hackathon for Social Good Bronze Award 🔗 🔗 2022
Doyle Foundation Scholarship ($2000) 2021, 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