

Michael Wang

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EDUCATION

Brown University, 3.94/4.00

Bachelor of Science in Applied Mathematics - Computer Science

Providence, RI

Expected Graduation May 2026

Hsinchu International School, 4.00/4.00

Valedictorian

Hsinchu, Taiwan

Class of 2022

CERTIFICATIONS

Google Data Analytics Professional Certificate

Coursera

EXPERIENCES

Undergraduate Research Assistant

Singh Lab @ Brown

January 2024 – Present

Providence, RI

- Investigating **Machine Learning**, **Deep Learning**, and **Data Analytics** in the biology and genomics field
- Participating in **2 lab meetings** and **1 reading group** weekly to proactively engage with the latest works
- Currently involved with running experiments for edge accuracies in **9 Graph Neural Network Explainers**

Research Intern

Institute of Information Science, Academia Sinica

July 2024 – August 2024

Taipei, Taiwan

- Wrote YAML files and configured Executors for **Kuwa AI**, a privacy-focused **Gen-AI Orchestration System**
- Worked with latest technologies such as **Multi-Agent Frameworks** and **Retrieval-Augmented Generations**
- Constructed **2 Chatbots** powered by Large Language Models that can communicate with experts' perspectives
- Developed with **TAIDE**, a Large Language Model on traditional Chinese and Taiwanese culture, and **Llama 3.1**

Natural Language Processing Teaching Assistant

Pano Education

July 2023

Taipei, Taiwan

- Assisted a professor from the **University of Toronto** in teaching **Python** and **Natural Language Processing**
- Prepared daily technical materials for a class of **12 participants**, consisting of high school and university students
- Oversaw a total of **7 personal projects** while simultaneously mentoring multiple students with **Hugging Face**
- Successfully presented all final results to the **Mentorship Director**, **Mentorship Department**, and **Founder**

PROJECTS

Bruno Maps | *Java, Spark, Maven, React, Typescript, CSS, Playwright*

Software Engineering

- Collaborated in a **team of 3** to develop a **full-stack travel planner** geared towards Brown University visitors
- Implemented **Dijkstra's algorithm** to optimize travel routes for locations within a **1 km radius** on campus
- Utilized the **Spark package** to manage relevant backend processes and maintain **server frameworks**
- Integrated **Maven builds** with **Playwright tests** to establish a comprehensive **end-to-end testing framework**

Package Identifier | *Python, Scikit, NumPy, Matplotlib*

Machine Learning

- Aimed to use traditional **Machine Learning** algorithms for **image recognition** up to **5 seeded packages**
- Built core **Computer Vision** functionalities, such as **feature point extraction**, **feature descriptor construction**, and **feature matching** algorithms
- Successfully averaged a **83% identification rate** in scenes with varying background colors, lightings, and tones

Forest Segmentation | *Python, TensorFlow, PyTorch, NumPy, Matplotlib*

Deep Learning

- Applied **Semantic Segmentation** to identify forested areas with a dataset of **5108 aerial images** from Kaggle
- Combined a pre-trained segmentation network with a fully convolutional discriminator network over **800 epochs**
- Achieved a **mean IoU accuracy of 80%**, overcoming challenges with a smaller dataset and outdated reference

SKILLS

Relevant Courses: Software Engineering, Data Structures and Algorithms, Computer Systems Fundamentals, AI

Technical Skills: Java, C, C++, Python, JavaScript, Typescript, React, HTML, CSS, R, SQL, Tableau, Docker, Git

Professional Skills: Presentation, Collaboration, Communication, Research, Problem-Solving, Adaptability, Agility

Language Skills: Trilingual proficiency in English, Japanese, and Mandarin