

# Brook Mao

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## Education

University of Toronto, Bachelor of Science in Computer Science

Sep 2023 to Aug 2027

- CGPA: 3.97/4.0

## Skills

**Programming Languages:** Python, Java, SQL, JavaScript, TypeScript, C, C++, PHP, Bash, PowerShell

**Libraries & Frameworks:** React, Node, Express, jQuery, Flask, Bootstrap, Tailwind, Jest, JUnit, Unittest

**Tools, Platforms & DevOps:** Git, Docker, GitHub Actions, AWS, GCP, Azure, Linux, NGINX, Firebase, CI/CD

## Projects

### ThreatTrace AI

[Link to Project](#)

- Collaborated in a team of 4 at Hack the Valley to develop a machine learning model using Python that classifies cell images as healthy or malaria parasitized with 95.45% accuracy, winning the Pulsar ML Challenge.
- Coordinated tasks and clarified roles for teammates to deliver a working prototype within 36 hours.
- Deployed the model via a web app using HTML, CSS, Bootstrap, and JavaScript to create a sleek UI, and Flask to develop a REST API backend, allowing users to try the model out with their own images.
- Set up a CI/CD pipeline with GitHub Actions, automating Docker image builds and deployments to GCP.

### Toronto Asian Art Museum Mobile App

[Link to Project](#)

- Developed an Android app using Java and Firebase Realtime Database for efficient artifact management.
- Led a team of 6 as Scrum Master, facilitating meetings and sprint planning, and achieving a 10/10 peer evaluation score.
- Resolved bugs for 3 team members, ensuring on-time delivery of requirements within a 1-month deadline.
- Applied object-oriented design patterns like Singleton and Adapter to write maintainable code.

### MultiClock

[Link to Project](#)

- Developed a multiplayer chess clock web app using React, Node.js, Express, and MongoDB.
- Deployed the app on AWS using a Linux VM, configuring NGINX as a reverse proxy with HTTPS encryption, making the app accessible for anyone to use securely.

### Portfoliify

[Link to Project](#)

- Developed a web app for creating and managing online profiles using PHP, MySQL, and JavaScript.
- Designed a data model using relational databases, featuring 5 SQL tables to efficiently store user data.

### 3D Rendering Engine

[Link to Project](#)

- Built an object-oriented graphics program in C++ to render 3D shapes like cubes and pyramids.

### Java Brokers

[Link to Project](#)

- Collaborated in a team of 3 to develop a stock trading simulator using Java, featuring user authentication and easy portfolio management.
- Designed the software using UML diagrams and applied object-oriented principles to promote maintainability.

## Experience

Open Source Contributor, Visual Studio Code – Remote

Mar 2024 to Apr 2024

- Shared ideas on GitHub Discussions and incorporated code review feedback from Microsoft engineers to successfully merge a pull request and resolve a backlog issue.
- Clarified settings descriptions and updated the TypeScript codebase to improve the user experience.