Brook Mao

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# Skills

## Technical

* Proficient in Python, JavaScript/TypeScript, Java, C/C++, and PHP, developing apps such as \_\_\_\_\_\_\_\_\_\_.
* Experienced with SQL databases, building a full stack profile collection app leveraging MySQL.
* Familiar with NoSQL databases like MongoDB and Firebase Realtime DB, building apps such as \_\_\_\_\_\_\_\_\_\_.
* Familiar with basic system design from engineering a multiplayer chess clock app with a 3-tier architecture.
* Clear documentation skills demonstrated through open-source contributions to the VSCode user documentation.
* Skilled at writing clean and easily understandable code (by peers and TAs), through U of T's software design course.
* Detailed in quality assurance, writing unit tests for personal projects and school assignments using frameworks such as doctest, unittest, Jest, and JUnit.
* Familiar with DevOps, using Docker and GitHub Actions to set up CI/CD pipelines in projects such as \_\_\_\_\_\_\_\_\_\_.
* Knowledgeable at mining and visualizing raw CSV data to reveal insights using Python libraries such as Pandas and Matplotlib, through freeCodeCamp's certificate.

## Interpersonal

* Experienced working in Agile and Scrum teams, leading a group of 6 as Scrum Master using Jira to build an artifact database Android app catering to client requirements for a final course project.
* Open communicator, facilitating standup meetings both in software teams and with colleagues as a camp counselor.
* Collaborates effectively and quickly learns new skills to fulfill roles in hackathon projects and meet tight deadlines.

# Education

## University of Toronto, Honors Bachelor of Science in Computer Science (Co-op) Expected 2027

Software Engineering Stream | Relevant Courses: Software Design, Computer Organization

## Additional Certifications

* JavaScript Algorithms and Data Structures, freeCodeCamp.org
* Data Analysis with Python, freeCodeCamp.org
* Web Applications for Everybody Specialization, University of Michigan (Coursera)

# Experience

## [Artifact Database Android App](https://github.com/BrookMaoDev/SoftwareDesignFinalProject) | *Android Studio, Java, Firebase, Jira, Agile and Scrum* July 2024 - August 2024

* Leveraged Firebase and Java to develop a mobile app that efficiently manages and organizes museum artifacts.
* Led a team of 6 as Scrum Master, facilitating standups and sprint planning, communicating tasks and deadlines, and enabling smooth collaboration on GitHub by resolving merge conflicts, earning a peer evaluation score of 5/5.
* Troubleshooted and resolved bugs for 3 team members, ensuring the artifact display page and report generation feature met requirements and kept the project on schedule.
* Implemented a vibrant, interactive UI by extending standard AndroidX fragments to create custom UI elements.
* Wrote maintainable and testable code by utilizing the Model-View-Presenter (similar to MVVM) architecture, and applying design patterns including Singleton, Adapter, and Strategy.

## [MultiClock](https://github.com/BrookMaoDev/MultiClock) - Multiplayer Chess Clock | *MERN, Tailwind, NGINX, Docker, Linux, AWS, GitHub CI/CD* May 2024

* Developed a full stack web app using React for the frontend, Node and Express for the backend, and MongoDB for the database, resulting in an easy-to-use tool that serves as a timer for multiplayer board games.
* Enabled use of the app on both desktop and mobile by implementing a responsive web design.
* Containerized each layer of the application with Docker, allowing for individual scaling of each component.
* Deployed the application on AWS using a Linux VM and configured NGINX as a reverse proxy, achieving HTTPS encryption, and ensuring secure, reliable access for users.