

Marvin Wu

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OBJECTIVE

Computer Engineering New Graduate with 2 years of software engineering experience currently seeking job opportunities to transfer the skills learned from academics into meaningful real-world impact and to continually develop my professional career.

EXPERIENCE

Ontario Power Generation

Bowmanville, Ontario

Software Engineering Intern

May 2024 - August 2025

- Developed a Django web application that reduced the time spent on reporting plant reliability metrics by 75% (from two weeks to three days per month) by consolidating key information from five independent sources onto one web page.
- Devised a web browser automation tool using Playwright Python and MS Excel VBA scripting that completes work form submissions over 10 times faster than the original manual process while minimizing the need of human oversight.
- Developed a work rescheduling algorithm that queries SQL data on weekly resource availability and identifies available time slots to place work, providing further optimization to the work scheduling process.
- Initiated and directed the development and deployment of four new software applications to boost the operational efficiency and user convenience of daily workflows for the entire Darlington Work Management department.
- Created and refactored over 50 SQL tables and views to fulfill ad-hoc data requests from managers and to document trends regarding industry operations and safety standards under nuclear regulatory and licensing frameworks.

PROJECTS

3D Facial Reconstruction Mobile Application

September 2025 - March 2026

- Engineered an 3D face reconstruction mobile application in Java using camera-only input and a 3D Morphable Model approach, broadening accessibility to AR/VR, digital avatar, and biometric use for general consumers at no cost.
- Designed a multi-stage reconstruction pipeline that includes landmark detection, shape/pose fitting with joint optimization, and texture mapping to achieve a sub-5-minute model generation with meshes exceeding 1,000 triangles.
- Validated model accuracy across multiple devices and datasets to achieve a mean facial landmark error of 3.92 mm.

Full Stack Cloud Development Capstone

June 2023 - August 2023

- Built a real-world web application serving as the portal for car dealership branches and customer reviews in the United States, achieving a 100% grade and earning my IBM Full Stack Software Developer online professional certificate.
- Created and stylized navigable pages with static and dynamic elements using HTML, CSS, and React.
- Processed RESTful API results, built data models, and created proxy services using JavaScript, Python, and SQL.
- Constructed a DevOps pipeline by integrating CI/CD action flows and automated code linting with GitHub Actions, containerizing the application with Docker, and automating the deployment process with Kubernetes.
- Utilized IBM Cloud's database, AI, and storage products to implement CRUD cloud functions and analyze customer review sentiments.

Geographic Information System Software Program

January 2023 - April 2023

- Worked in a team of three to create a C++ mapping program that displays the streets, intersections, and points of interests of 10 major international cities using the OpenStreetMap database and EZGL graphics package.
- Adopted an Agile methodology by iteratively adding and revising features like local language support, auto-filling searches, and path finding functionality after receiving feedback from teammates and teaching assistants.
- Strengthened design and communication skills by coordinating and distributing work among teammates with Git.
- Tackled the Traveling Salesman Problem through a combination of Dijkstra's algorithm, 2-opt heuristics, and parallel multi-threading to score the rank of 5th fastest solution out of 91 competing teams.

SKILLS

Languages: Python, Java, C/C++, HTML, CSS, JavaScript, SQL

Frameworks: React, Django, Next.js

Tools: Docker, Kubernetes, Git, GitHub, Android Studio, Microsoft Excel, IBM Cloud, Claude Code

EDUCATION

University of Toronto

Toronto, Ontario

Bachelor of Applied Science in Computer Engineering + PEY Co-Op

September 2021 - May 2026