

Jianan Wu

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Education

University of Waterloo

Bachelor of Applied Science in Engineering, **Computer Engineering**

Waterloo, ON

Experience

Mappedin

Jan 2023 – April 2023

Software Developer

Waterloo, ON

- Consolidated 10+ status in a map editor using **Mobx** state machine, enhance the ease of adding new status. This significantly improve the code's modularity and maintainability, shrank the state codebase by 53%.
- Leveraged **GeoJSON** and **TypeScript** to architect and execute new features via **Test-Driven Development (TDD)**, empowering users to intuitively drag and sketch elements onto their floor maps, leading to a nearly half time reduction on creating a new venue as validated by A/B testing outcomes.
- Optimized a dashboard using **React**, **Django**, and **MySQL**, allowing users to manage venues of their account

Stealth Monitoring

Jan 2020 – April 2020

Software Engineer

Mississauga, ON

- Promoted the system's responding time of tracing the camera through **caching** and load balancing, comparing to the old update function, more than 80% of running time are saved.
- Enhanced camera information retrieval system using **.Net core** and **C#** by implementing a hash map-based data structure, achieving a 70% reduction in data fetch latency.
- Developed a camera error detection system using **.Net core**, **MySQL**, and **camera SDKs**, promptly alert users of any disruptions or network failures, ensure minimal operational downtime.

Joseph Brant Hospital

Jan 2022 – April 2022

Full Stack Developer

Burlington, ON

- Designed and implemented a Purchase Requisition process feature in a digital health system using **Angular**, **TypeScript**, and **MongoDB**, resulting a decrease of time in this process from 5 days to 1.5 days.
- Enhanced the functionality of Hospital's internal tool by adding searching and sorting functions.
- Optimized database queries by adding foreign keys in **MySQL**, reduced more than **50%** of the page load latency.

Electro Source

May 2021 – Aug 2021

Software Engineer

Toronto, ON

- Integrated data into a new APP with **elastic search** from different database, saved around **60%** of searching time.
- Leveraging the scikit-learn library for machine learning to develop a data mining solution that forecasts customer purchase propensity for specific product categories, informed by historical buying patterns.

Elearning

Sept 2020 – Dec 2020

Application Developer

Markham, ON

- Engineered a **React Native** and **Redux**-based video rating system for Elearning's mobile application, enabling robust data collection and streamlining user feedback processes.
- Writing tests using **Vitest** and **playwright unit test** to validate software functionality and performance.

Projects

ActivityFlow | React, Redux, Django, Amazon RDS, AWS cognito, Sk-learn

- Designed a web app to enrich university students' life by discovering and creating campus activities.
- Engineered an activity management system using **React**, and **Django**, enabling creation and participation in events.
- Designed and developed a user management system using **AWS Cognito**, integrating secure user multi-factor authentication, authorization, and profile management features, ensuring users' data protection and privacy.
- Implemented an event recommendation engine within a **Django** framework, through a user-based **collaborative filtering** algorithm. It calculates Pearson correlation coefficient to provide users personalized event suggestions.

Technical Skills

Languages: Python, JavaScript, TypeScript, C++, C#, C, Java, HTML, CSS, SQL.

Technologies: .Net core, React, React Native, AngularJS, Django, SOAP, REST, MySQL, MongoDB, Git, Ubuntu, Docker

Concepts: Algorithms, Concurrency, Real-time operating system, Database, Networks, Compiler, Distributed computing, Co-operative and Adaptive Algorithms, Computational Intelligence, full-stack development