# Shiba (Megumin) Wang

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## EDUCATION

**University of Waterloo**                                                                                      Waterloo, ON
*B.Math Co-op, Computational Mathematics & Mathematical Finance (GPA: 3.72)*          *Expected Graduation: 2029*

## PROFESSIONAL EXPERIENCE

**Centre for Extended Learning Department, University of Waterloo**                    Sep. 2025 – Present
*Software Developer Co-op*                                                                            *Waterloo, ON*
- Developed React applications with Preline UI for the Academic Quality Enhancement review system; created reusable component libraries that reduced development time and standardized UX across modules.
- Integrated RESTful APIs in ASP.NET Core MVC with Entity Framework and MS SQL Server; contributed reusable service layers and dynamic query patterns, eliminating **60%** of repetitive code.
- Wrote unit and integration tests with Jest and React Testing Library; achieved **85%** coverage and **80%** fewer production bugs by by mocking the Axios/API layer, enforcing CI coverage gates and pre-merge test runs.
- Connected frontend to backend API using Axios; managed state with Redux Toolkit and React Hook Form for multi-step forms, improving responsiveness and reducing form-related defects.

**Fountain Health Technology (Fountainhealth.net)**                                    Nov. 2024 – Present
*Co-Founder & Full-Stack Developer*                                                                   *Waterloo, ON*
- Lead development of a healthcare platform connecting patients, physicians, and legal firms; built a React + Redux Toolkit frontend replacing weeks-long paper processes with secure digital access.
- Develop a Python/FastAPI backend with PostgreSQL, implementing encryption, secure API endpoints, JWT authentication, and audit logging for all medical-record access.
- Conduct patient interviews/surveys to prioritize features; implement OCR-based AI data extraction and WebSockets real-time updates, trimming record-collection turnaround by **90%** for patients and partner firms.

**Nanjing Xitai Trading Co., Ltd.**                                                    Jun. 2024 – Aug. 2024
*Software Developer Intern*                                                                           *Nanjing, China*
- Built a full-stack Employee Management System with role-based access control (Admin/Manager/Staff) using React and Material UI; delivered CRUD for employee profiles and department assignments
- Developed 12 RESTful endpoints with Spring Boot and Spring Security on MySQL, adding DTO validation, implemented JWT with refresh token rotation and request rate limiting for reliable, scalable access.
- Optimized database performance via Spring Data JPA queries and indexing, improving response times and sustaining higher TPS under load; maintained code quality with JUnit (backend) and Jest (frontend).

## PROJECTS

**Your Servant - Canadian Representative Lookup Platform**                                        [GitHub Link]
- Full-stack web application enabling Canadian citizens to find elected representatives by postal code with bill tracking, voting records, and follow system for improved civic engagement.
- Built RESTful API using **Laravel/PHP** with Sanctum authentication, integrated Canadian government APIs for live data, and developed responsive frontend with **React**, **Tailwind CSS**, and **Zustand** for state management.
- Designed **MySQL** database with user authentication, representative profiles, bill tracking, and follow relationships featuring proper indexing and real-time search functionality.

**Your Video Notes AI - AI-Powered Video Note Generation Platform**                              [GitHub Link]
- Cross-platform desktop application that transforms video content into comprehensive AI-powered notes with visual analysis, supporting YouTube videos and local files for enhanced learning and productivity.
- Developed full-stack solution using **React/TypeScript** frontend with **Tailwind CSS** and **Tauri** for desktop deployment, integrated with **FastAPI/Python** backend supporting multiple AI models including OpenAI.
- Implemented advanced video processing pipeline with **FFmpeg**, multimodal AI vision analysis for frame extraction, whisper transcription services, and **SQLite** database for task management and model configurations.

## SKILLS & INTERESTS

**Languages**: Python, JavaScript, TypeScript, Java, C#, C/C++, PHP, SQL, HTML/CSS, R, Racket

**Technologies**: React, Redux, Zustand Node.js, FastAPI, Spring Boot, ASP.NET Core, Laravel, AWS, Docker, PostgreSQL, MySQL, Webpack, MongoDB, Redis, Git, Jest, JUnit, OpenAI APIs, Tailwind CSS, Material UI, FFmpeg