

Zichong (Marven) Wang

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Skills

- JavaScript, TypeScript, Android (Java+Kotlin+XML), PostgreSQL; Tailwind, React, Node.JS, Redux, NextJS, Figma
- Python, C, C#, Java, SQL, Racket; REST API, TensorFlow, Sentence Transformer
- Git, Docker, Jenkins, AWS, Full Stack CI/CD

Work Experience

HMI Software Development Engineer Intern | Ford Motor Company May. 2025 - Aug. 2025

- Contributed on the core Phoenix IVI platform using Java, Kotlin, and XML, delivering 14 features in 4 months
- Actively participated in the NextGen intern group and their Inter Better Tomorrow Challenge. Researched and prototyped an AI RAG model that reduce repo navigation and PR review time by 70%
- Colaborated with 4 other teams, delivered 12 same-day fixes and feasibility analysis, which led to on-time delivery of 5 major milestones

Software Development Assistant | Apex Snow Academy Apr. 2024 - Aug. 2024

- Built the backend of a student-matching and volume forecasting system in Python and TensorFlow that automated instructor timetables, increasing lesson hours by 20% and reducing scheduling overflow by 13%
- Implemented the company's website using Wix Studio, JavaScript, and CSS, attracted 200+ customer enrollments and over \$5000 in revenue

Software Development Intern | Akari Tech Mar. 2023 - Aug. 2023

- Developed a 3D scene visualizer in Unity with auto scene switching and vehicle blacklist alerts, improving incident response speed by 30%.

Extracurricular

Tech Exec | UWaterloo AWS Cloud Club Jan. 2025 - Present

- Led the 2025 AWS SageMaker workshop, guiding 50+ participants to host various models they built
- Organized socials, tours, demos, and events for 200+ club members, enhancing engagement and community participation.

Participant | International Mathematical Modelling Challenge Apr. 2024

- Programmed an adoption recommendation engine in Python using a neural network to calculate how fitting a household is to adopt a certain pet with test set accuracy of 91%
- Led a team of 4 to develop a model and solution for the IMMC, received honorable mention

Projects

ResuMix | Python, Flask API, SQL SentenceTransformer, NextJS Apr. 2025 - Oct. 2025

- Developed a semantic similarity assessment system for resume line scoring and used DP algorithm to optimize the resume, resulting in a 30% accuracy increase and 80% cost reduction in our sample tests compared to the old GPT wrapper model
- Designed and optimized the backend with pooled database connections and batch commands, improving query performance by 45% and reducing server load by 30%.
- Led a team to build a one-click resume optimizer that generates tailored resumes from a master version for specific jobs.
- Managed Git workflow, resolved merge conflicts, enforced code style, and automated unit testing with a Linux script

Thread AI (CalHacks) | AI Agent, Bun, WebSocket, React Flow Oct. 2025

- Developed an arbitrary agent algorithm, observed emergent behavior of planner-executor, self-debate, and other patterns without explicit instruction
- Built agent execution tree viewer/controller with interactive display and steering using SolidJS and React Flow, reducing cognitive tracing time by 67% and human intervention latency to <1 second
- Built a full-stack AI agent orchestration platform enabling multi-threaded reasoning and user querying for clarification and opinions, eliminating 70% of irrelevant token use and resulting in 40% more creative/innovative attempts

Education

University of Waterloo | BCS Honours Computer Science 2027

- Recipient of the Alumni scholarship and the Presidential Scholarship of Distinction