Bobby Wu

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EDUCATION

University of Waterloo　　　　　　　　　　　　　　　　　　　　　　Sep 2020 – Sep 2025
Bachelor of Computational Mathematics Honours Co-op, Minor in Computing　　　*Waterloo, ON*

SUMMARY OF QUALIFICATIONS

Software Development: Built responsive web/mobile apps with ReactJS, React Native, Python, and C/C++; strong in OOP and functional programming.

Quality Assurance & AI: Automated 800+ test cases; integrated Azure OpenAI/GPT to generate/verify cases, boosting coverage and efficiency.

Digital Learning Design: Developed online math/econ courses (UW); applied instructional design and LMS integration to improve accessibility.

Leadership: Directed operations for a 3000+ member club and led 50+ co-op students in full-stack dev training with a 96% project pass rate.

EXPERIENCE

Digital Learning Content Developer — University of Waterloo　　　　May 2024 – Aug 2024
Waterloo, ON

- Collaborated with the Faculty of Mathematics to design and develop online course materials for first-year Mathematics and fourth-year Economics courses.
- Applied instructional design principles to structure lectures, assignments, and assessments using UW Möbius into accessible digital formats, ensuring clear learning objectives.
- Organized and uploaded course content into Waterloo's learning management system (LEARN), performed quality assurance testing, and optimized course navigation and accessibility features.

Software QA Automation Engineer — Ansys, Inc.　　　　　　　　　Sep 2023 – Dec 2023
Waterloo, ON

- Maintained, optimized, and executed 800+ automated regression test cases and simulation scripts, improving reliability and reducing manual QA effort.
- Integrated Azure OpenAI and fine-tuned GPT into the testing pipeline to automatically generate and verify test cases, cutting development time and increasing coverage for complex simulation models.
- Researched and applied advanced verification strategies using Python and XML frameworks to streamline workflows and ensure accuracy across multiple product releases.

Frontend / Mobile Developer — Aisha Comfortable Co-living　　　　Jan 2023 – May 2023
Remote

- Designed and developed responsive **ReactJS** and **React Native** web/mobile applications for a co-living startup, enabling seamless communication and onboarding for tenants.
- Implemented scalable front-end components and reusable UI modules that reduced onboarding time for users by over 30%.
- Applied Agile practices to prioritize features, debug complex UI/UX issues, and deploy production-ready builds on tight timelines.

Web Development Team Lead — Manulife, University of Waterloo　　May 2022 – Aug 2022
Waterloo, ON

- Led a team of 50+ co-op students in the WE Accelerate program, achieving a 96% project pass rate while coaching peers on full-stack web development best practices.
- Coordinated project lifecycles from requirements gathering to deployment, ensuring milestones were met under strict industry-client deadlines.
- Designed coding workshops, code reviews, and debugging sessions to help students meet professional standards in HTML, CSS, JavaScript, and React development.
- Collaborated with senior industry professionals to align training with real-world enterprise development practices.

Leadership & Involvement

President of Operations — UW Badminton Club   Sep 2021 – Sep 2025
Waterloo, ON
- Directed operations for a 3000+ member student club, managing finances up to $18k, event planning, and executive team coordination to deliver one of UW's largest athletics communities.
- Secured sponsorships and funding for facilities and equipment, while growing participation by 25% across tournaments, socials, and competitive practices.
- Strengthened club presence through social media campaigns (Instagram, Discord) that grew engagement by 10k views, and 240% increase in overall engagement.
- Directed marketing and outreach initiatives by performing product analytics (SWOT) and leading campaigns across Instagram, Discord, and poster outreach, boosting event visibility and engagement.

Club Ambassador — UW Climbing Club   Apr 2025 – Sep 2025
Waterloo, ON
- Represented the Waterloo Climbing Club as a student ambassador, promoting the club's mission and events to the broader campus community.
- Organized and supported climbing-related events, including workshops, competitions, and socials, to engage new members and foster an inclusive climbing community.

PD1 Teaching Assistant — University of Waterloo   Sep 2022 – Dec 2024
Waterloo, ON
- Facilitated resume critiques, interview preparation, and assignment grading for 120+ students, providing actionable feedback to improve job search performance.
- Delivered workshops and one-on-one coaching sessions to help students strengthen communication, professionalism, and technical presentation skills.

Projects

MoonBoard Coach (In Progress): Building a React app for climbers that analyzes movement patterns, generates beta suggestions, and visualizes poses on a MoonBoard. Integrated AI-based feedback system to simulate coaching.

Custom GPT for Resume Critiquing (In Progress): Developing a free-to-use GPT-powered assistant that provides resume feedback and suggestions to help students and professionals strengthen job applications.

Food Storage Expiry Tracker (In Progress): Creating an app that tracks fridge/pantry items, monitors expiration dates, and suggests recipes to reduce food waste and promote healthier eating.

Live Caption Generator: Designed a Vite/ReactJS web app that captures microphone input and generates live captions in real time, optimized for accessibility and user control.

Instagram Growth Experiment: Launched an Instagram page to test short-form content strategies, achieving 18k+ combined views in the first week by applying growth and engagement principles.

Technical & Professional Skills

Languages: Python, C/C++, R, SQL, Regex, Bash, PowerShell, MIPS
Frameworks & Libraries: ReactJS, React Native, MaterialUI, Node.js, Pandas, NumPy
Tools & Platforms: Git, GitHub, GitLab, Jira, Postman, Azure DevOps, UNIX/Linux, MS Office, Google Workspace
Cloud & AI Technologies: Azure, Azure OpenAI, AWS, GPT integration, Simulation frameworks
Design & Multimedia: Canva, Gravit, Krita, Figma, Photoshop (basic)
Methodologies: Agile/Scrum, Test Automation, Instructional Design, LMS (Möbius, LEARN)

Awards, Honors & Certifications

President's Scholarship of Distinction: Awarded by the University of Waterloo for outstanding academic achievement (2021).
Dean's List: University of Waterloo, 2022–2025.
LSTAR Honours Student Scholarship: Recipient of the 2020 LSTAR Honours Student Scholarship Award.
Microsoft Certifications: Azure AI Fundamentals, Azure Fundamentals.
Professional Training: Certified in First Aid and Counterfeit Detection.
Languages: English (Native/Bilingual), Mandarin (Conversational)