

# Robert Xing

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## EDUCATION

**University of Western Ontario, Ivey Business School**  
Bachelor of Engineering Science, Software Engineering  
Bachelor of Arts, Honours Business Administration (Ivey HBA)

Expected May 2026

## TECHNICAL SKILLS

**Languages:** Python, Javascript, Typescript, Java, C#, HTML/CSS, SQL  
**Frameworks:** Node, React, NextJS, Tailwind, ExpressJS, Flask, REST APIs  
**Tools:** Git, MongoDB, PostgreSQL, Figma, Docker, Jira, MATLAB

## EXPERIENCE

**Open Source Contributor** | FlyByWire Simulations Sep 2024 - Present

- Improved the A32NX and A380X airliners for Microsoft Flight Simulator, **gaining 300K+ downloads in 3 months**
- Optimized A380X manual using A/B testing**, resulting in 77% successful landings of 1500+ flights on launch day
- Corrected flight computer logic governing optimal cruise altitude calculation, **resulting in fuel savings of up to 10%**
- Performed system testing** to ensure simulation accuracy, **enabling deployment of 20+ features** via GitHub
- Refactored Javascript components using a Typescript framework to minimize re-renders, **reducing stutters by 50%**

**Vice President of Marketing** | Western Founder's Network Aug 2024 - Present

- Developed a Jira Kanban board and integrated calendar system** to optimize process management for 11 club departments, **reducing scheduling conflicts by over 50%**
- Implemented liaison system to efficiently address weekly marketing tasks for 5 event-driven departments, including content creation on Instagram and Tiktok, corporate outreach, and branding design
- Designed and built 10+ digital assets on Figma** for social media posts, event slides, and sponsor packages
- Spearheaded 6+ promotional campaigns** on Instagram Reels, **increasing event attendance by 30%**

**Assistant Instructor** | Kumon Waterloo-Laurelwood Jun 2024 - Aug 2024

- Mentored 15+ newcomer students** with attentive 1-on-1 guidance, leading to a **retention rate of over 95%**
- Monitored class sessions with attention to detail, providing personalized assistance, clarifying complex concepts, and fostering self-learning skills, contributing to an **increase in honour roll achievement of over 20%**
- Optimized worksheet inventory management and assessed progress for 380+ subjects using Microsoft Excel and proprietary record-keeping software, ensuring seamless student experience during daily classes
- Marketed the program to parents during orientation sessions, **gaining 25+ new enrolments over two months**

## PROJECTS

**Full-Stack Chatbot** [Debrief](#) (NextJS, Tailwind, PostgreSQL, Cohere Chat API)

- Implemented **Cohere Chat API** to stream conversations between the user and various predefined characters
- Created user authentication flow and built database for users with **Lucia, PostgreSQL, Docker, and Node-Postgres**, supporting functions such as data fetching, app routing, and session handling
- Built user interface with React and TailwindCSS** and engineered character prompts to mimic various personalities

**ML/CV Crowd Control App** [Flock](#) (Flask, PyTorch, OpenCV, MongoDB, Auth0)

- Implemented crowd-counting computer vision model to assess number of people in a venue with **<7% mean error**
- Authenticated users with Auth0 and implemented a MongoDB database to organize user and venue data
- Developed crowd density model** and used websockets to stream video feeds to Flask, creating a **crowd density heatmap with <10s latency**

**CV-Augmented Gantry Crane** [StrongArm](#) (OpenCV, Flask, Arduino, PySerial)

- Implemented object-detection computer vision model to identify shipping containers with **>95% accuracy**
- Connected Flask backend to Arduino hardware using PySerial, achieving millimetre precision in crane movement
- Designed and built operator intuitive GUI** to maximize accessibility and minimize user-induced error