Richard Xu

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EDUCATION

Western University   London, ON
Software Engineering — Bachelor of Engineering Science (BESc)   GPA: 3.9   *Sept. 2024 – Apr. 2028*

EXPERIENCE

AI Innovation Developer (World Vision – DiscoverVision)   Sept. 2025 – Present
World Vision Canada (Non-Profit Organization)   *Remote*

- Developing **production software tools** that **automate research workflows using AI** on **Azure**, reducing manual effort and improving team efficiency
- Building **Python-based RAG pipelines** to automate document retrieval, summarization, and information synthesis
- Working with **LLMs via API** (GPT-style) and applying prompt engineering to improve response quality
- Exploring **agentic workflows** to automate multi-step research tasks
- Collaborating with stakeholders to iteratively refine AI tools around real researcher needs

AI/ML Research Intern   May 2025 – Aug 2025
Western University   *London, ON*

- **Designed and trained** a reinforcement learning agent using **Stable-Baselines3 (PPO)** and **Gymnasium** to minimize Wi-Fi **latency, jitter, and packet loss** in multi-AP environments
- **Built a custom Gym-compatible environment** with reward shaping from real network measurements and QoS-aligned objectives
- **Developed a full-stack platform** (**Flask + React**) to run experiments, collect live Wi-Fi metrics, and evaluate AI-driven configuration decisions
- **Engineered interactive dashboards** with **Tailwind CSS** and **Recharts** to compare RL vs. baseline performance and trends over time
- **Integrated live AP scanning on macOS** for real-world evaluation despite OS channel-switching limits; **logged 50+** RL/baseline episodes per run for reproducible analysis

PROJECTS

AI/ML Wi-Fi Optimizer | *Python, Flask, React, Gymnasium, Stable-Baselines3*   May 2025 – Aug 2025

- Trained a **PPO reinforcement learning agent** using real latency, jitter, and packet-loss feedback; compared RL vs. baseline performance
- Built a **custom Gym environment and dashboard** to visualize agent decisions and network metrics

eBay Deal Finder | *Python, Flask, React, eBay API, PostgreSQL, Render*   July 2025 – Aug 2025

- **Built a full-stack web app** that lets users search for products and find real-time deals using the **eBay API**
- **Integrated** eBay production and sandbox APIs, handling **authentication, queries, and dynamic responses**
- **Implemented** product sorting by **price/rating** and stored search history using **PostgreSQL**
- **Deployed** the app using **Render** with a **Flask backend** and **React + Tailwind frontend**

ExpenseTracker | *Python, Django, Bootstrap, SQLite, JavaScript*   Dec 2024 – Jan 2025

- Created a personal finance tracker with **income/expense logging**, **CSV export**, and time-based filters
- Used **Django templates and Bootstrap** to build a responsive and modular UI
- **Added interactive filters** (e.g., last 6 months, 1 year) and dynamic charts using **Matplotlib**
- **Designed a clean layout** with sidebar navigation and support for theming

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, SQL, HTML/CSS
AI / ML: LLMs (API-based), Prompt Engineering, RAG, Agentic Systems, Reinforcement Learning
Frameworks: React, Flask, Django, FastAPI, LangChain, LangGraph
Libraries: pandas, NumPy, Matplotlib