James Li

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EDUCATION

University of Waterloo

Sep 2025 - May 2030

Honours Bachelor of Computer Science, Co-op

PROFESSIONAL EXPERIENCE

Lakes Environmental Software

Aug 2024 - Sep 2024

Waterloo, ON

Software Development Intern

- Engineered and delivered a high-performance, multi-language data processing and visualization tool
- Streamlined a log file parsing pipeline and ensured accurate storage of key data in MSSQL
- Shipped the .NET Core program within a week, learned C# from scratch on site
- Achieved performance of over 1 million bytes per second on a single machine through a parallelized batch inserts
- Utilized Plotly.io to visualize over 1.5 million lines of log data on a Streamlit dashboard

Tauria Jul 2024 - Aug 2024

 $Junior\ Software\ Developer$

Waterloo, ON

- Trained a customized Chainlit and Langchain LLM model with vectorized PDF files
- Deployed enhancements to Tauria's video conferencing app (React.js, MongoDB) with Docker containers
- Packaged the app as a desktop application using the Tauri framework, written in Rust
- Developed automated end-to-end tests with Playwright, covering 100+ test cases including login flow

PROJECTS

Guideline — AR Breadboarding Guide (Jamhacks Winner) | React, MongoDB, OpenCV, Kotlin

- Developed a Next.js web-app with dynamic routes, and MongoDB integration
- Generated QR codes linking to unique, Vercel-hosted routes based on user input converted from Netfile to JSON
- Contributed to Kotlin and OpenCV development for breadboard algorithms and AR features

- Founded neoleague.dev a non-profit org: Hosted 100+ participants and raised 11k in 2024
- Backed by Convictional, Den 1880, and the WRDSB school board
- Designed a modern landing page with Tailwind and Framer Motion
- Built a secure dashboard with OAuth authentication, storing user credentials in PostgreSQL (Supabase)

EuroNodes — Dijkstra's Algorithm Visualized \(\mathbf{Q}\) | Processing, Java

- Rendered a European map with interactive nodes and edges, incorporating UI elements for user interaction
- Used Dijkstra's Algorithm to calculate the shortest routes between nodes
- Integrated RESTful APIs and tinkered with Processing JSON responses to extract data

- Integrated a custom webcam tool with Streamlit and Flask for seamless functionality and real-time data capture
- Trained a Keras-based ML model to accurately identify five individuals for dementia detection

Weathermap — MERN Stack Weather App $Q \mid React, MongoDB, Node.js, Express.js, React Leaflet$

- Built a Node.js/Express backend integrating RESTful API calls for efficient data handling
- Structured and managed data in well-organized MongoDB collections for efficient access and scalability
- Built an interactive frontend with React Leaflet for an immersive user experience

TECHNICAL SKILLS

Languages: Javascript, Typescript, Html5, CSS3, C#, Python, Processing, Rust

Frameworks: React, Node.js, Express.js, Tailwind, Vue.js, .NET Core, Streamlit, Tauri

Tools: Docker, MongoDB, Supabase, PostgreSQL, MSSQL, Playwright