

DAMIEN LAN

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EDUCATION

University of Ottawa

Sep 2025 – Dec 2029

Bachelor of Applied Science in Software Engineering, CO-OP

Ottawa, Ontario

- Awards: Differential Tuition Fee Exemption Scholarship

EXPERIENCE

Software Engineer Intern

Apr 2025 – Aug 2025

MCB Group

Mauritius

- Developed and tested Python automation scripts for internal engineering tools, reducing repetitive manual development workflows.
- Debugged and resolved defects across existing Python applications, improving application reliability and maintainability.
- Collaborated through Git-based development workflows, participating in code reviews, version control, and team integration.
- Worked within an Agile development environment through daily stand-ups, peer reviews, debugging, testing, and technical documentation.

PROJECTS

LiftLog | *Python, Flask, SQLite, HTML, CSS, JavaScript, Git*

Aug 2026

- Built a full-stack fitness tracking app with Flask and SQLite, designing a 6-table schema and 20+ routes for workout logging and custom splits.
- Added dynamic JavaScript features including drag-and-drop reordering, rest timers, and PR detection using SQL aggregate queries.
- Designed a dark-theme UI with CSS variables and a persistent, user-selectable color system using localStorage.
- Deployed the app on Render.com with automated database initialization and Git version control for reliable startups.

uOttHack 8 (NAV Canada) | *Python, HTML, Git, OpenRouter AI API*

Jan 2026

- Built a tool that analyzes planned flight trajectory data to detect and resolve airspace conflicts and congestion hotspots.
- Integrated the OpenRouter AI API (LLaMA 3.1-8B) to predict flight conflicts and suggest advisory operational adjustments.

uOttawa Computer Chess Hackathon | *Python, Lichess API, Git*

Oct 2025

- Developed a chess-playing bot using the Lichess API to automate move generation and compete against other bots.
- Implemented Minimax with Alpha-Beta Pruning and Iterative Deepening algorithms to evaluate and select optimal moves in real time.
- Optimized time management and move selection logic for fast, accurate decision-making under hackathon time constraints.

The MDX Autonomous Robotics Competition | *C++, Arduino Hardware*

Jul 2024

- Built and programmed an autonomous robot using C++ and Arduino hardware, integrating sensors and motor control for self-navigation and obstacle avoidance.
- Configured sensors to collect environmental data for dynamic path adjustment and precise movement.
- Applied robotics and AI concepts like line-following, sensor calibration, and automation logic to optimize performance.
- Improved performance through iterative testing, debugging, and hardware tuning for reliable autonomous operation.

Technical Skills

Languages: Java, Python, TypeScript, JavaScript, HTML/CSS, SQL

Frameworks & Libraries: Spring, React, Next.js, Vue.js, Nuxt.js, Flask, Tailwind, MyBatis, Pandas, Folium

Databases: MySQL, SQLite, SQL Server

DevOps & Cloud: Docker, Kubernetes, OpenShift, AWS EC2, CI/CD, Nginx, Cloudflare

Tools: Git, GitLab, Figma, Postman

AI & Data: RAG, LlamaIndex, ElasticSearch, MCP Design, Prompt Engineering, OpenAI API