

Daniel Lu

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Education

Carleton University, B.Sc. in Computer Science (Honours, Co-op)

Ottawa, Canada

AI & Machine Learning Stream - GPA: 3.9/4.0

Sep 2023 – Apr 2028

- **Coursework:** Supervised/Unsupervised Methods, Transformer Architectures, Language Modeling & Embeddings

Experience

Software Developer

May 2026 – Aug 2026

Shopify

Toronto, Canada

- Incoming Summer 2026

Software Developer

May 2025 – Aug 2025

TrendAI

Ottawa, Canada

- Led development of a **digital twin PoC**, creating a **RAG system** with **LangChain**, **Neo4j**, **PGVector**, and **Model Context Protocol (MCP)** for predictive infrastructure security analytics.
- Delivered an executive presentation to **TrendAI CEO Office** in Taiwan, pitching technical value to an audience of **70+** and securing approval from **C-suite stakeholders**.
- Improved system latency by 30% and reduced monthly cloud costs by 18% for **120+ active enterprise users** by implementing **AWS** cloud infrastructure optimizations across with **Kubernetes HPA** and **pod load balancing**.
- Engineered **CI/CD pipelines** for internal SDKs and database deployment systems serving **200+ developers** and **10,000+ stakeholders**, reducing release cycle duration by **65%** (from 8 hours to under 3 hours).

Software Developer

Jan 2025 – Apr 2025

Blackberry QNX

Ottawa, Canada

- Engineered **core automation libraries** in **Python** for the **QNX RTOS**, expanding code coverage by **15%** (from 60% to 75%).
- Reduced system validation cycle time by **19%** by engineering automated testing scripts in **Python, C, and Bash** for QNX RTOS build pipelines, cutting manual verification effort per release from ~8 hours to ~6.5 hours.

Projects

Tobio | [Website](#) | [GitHub](#)

- Deployed **monocular 3D reconstruction pipeline** across **3 university volleyball teams**, delivering **sensor-free 3D player tracking** from standard game footage.
- Reduced post-game analysis time by **85%** via automated event recognition and a **Gemini RAG agent**, enabling coaches to query complex strategic patterns in natural language.
- Achieved **sub-centimeter tracking precision** under **severe visual occlusion** by engineering a resilient **computer vision system** (YOLOv11 + ReID), enabling real-time 3D mapping of player movements and high-velocity ball trajectories.

CloudQ | [Devpost](#) | [GitHub](#)

- Won **Best Web 3.0 Hack** at **McHacks 12** (competing against **500+ participants**).
- Decreased queue times by more than **50%** by deploying a **decentralized, virtual queue management system** powered by **blockchain and RAG technology**, ensuring **efficient line-free queues** for events.
- Developed a modern, responsive UI using **React.js**, **Vite**, and **TailwindCSS**, integrating **Auth0**, **Starknet**, and **Hugging Face** for authentication, smart contracts, and AI-powered features.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, TypeScript, Ruby, SQL

Libraries and Frameworks: Hugging Face, PyTorch, NumPy, Scikit-learn, React, FastAPI

Platforms & Technologies: AWS, Docker, Kubernetes, Jenkins, Terraform, REST APIs, Git