

EDUCATION

University of Waterloo *Honours Bachelor of Computer Science* Apr 2025 (expected)
Coursework: Machine Learning, Algorithms, Operating Systems, Compilers, Data Structures, Networks, Databases, Statistics

SKILLS

Languages: Python, TypeScript, C++, CUDA, Java, Golang, Rust, Dart, SQL, Bash
Technologies: React, Node, FastAPI, PyTorch, Spring, Flutter, MongoDB, PostgreSQL, Docker, k8s

EXPERIENCE


Super.com Sep 2024 - present
Software Engineer Intern Toronto, ON

- Implemented a pre-transaction **risk assessment model** to assess and mitigate ACH return risks, reducing payment failure by **15%**
- Developed feature (**Python, PostgreSQL, React**) to reroute customer funds from linked accounts to cover insufficient balances on their prepaid card in real-time, **guaranteeing successful purchases** while introducing minimal overhead (worst case **0.7s**)

Keplar.io May 2024 - Aug 2024
Machine Learning Engineer Intern San Francisco, CA

- Shipped new projects and features (**Node, Python, PostgreSQL, Elastic**) for an **agentic AI + RAG** startup
- Fine-tuned **vision models (PyTorch)**, built infra + backend (**GCP buckets, Prisma migration**) for new video processing feature
- Extended **load-balancer** to support **8** LLM providers and implemented LLM **routing** to save up to **70%** of cost per query
- Introduced **statistics-driven experiments** to evaluate product performance against real-world data, providing actionable insights and leading to **5** pilot customers upgrading to full contracts based on demonstrated value (B2B SaaS)

Interac Sep 2023 - Dec 2023
Software Engineer Intern Toronto, ON

- Built Open Banking API (**Java, Spring, PostgreSQL, Docker, k8s**) to scale-test production systems to **70+** financial institutions
- Implemented security model using **OAuth 2.0**, OIDC and encryption, for Financial-grade API certification
- Designed granular **permissions mechanisms** according to [RFC 9396](#) ; a drop-in upgrade for archaic OAuth scopes

Interac Jan 2023 - Apr 2023
Software Engineer Intern Toronto, ON

- Laid groundwork **ML and data infra**: architected cloud VMs for existing and upcoming data and ML workloads
- Migrated existing projects to shared NLP microservices, built **scheduler** to reduce cloud compute costs by **20%**
- Engineered **data pipelines** to run traditional NLP methods (ex. TF-IDF) on **10TB** document corpus
- Created Outlook extension to detect email compliance breaches; outperformed InfoSec system in production by **47%**


WSIB Innovation Lab May 2022 - Aug 2022
Software Engineer Intern Waterloo, ON


- Built **automations** for **90%** of insurance claims processing, replacing human review and saving operating costs by **15%**
- Scaled mobile tech stack (**Flutter, Node, MongoDB, OpenAPI, Docker, k8s**) to serve **100k** customers
- Implemented security and customer single-sign-on (**OAuth 2.0, OIDC**)


Paperminds AI May 2021 - Aug 2021
Software Engineer Intern Montreal, QC


- Launched web app for early-stage startup using **NextJS, PostgreSQL**, fast-tracking launch by **one month**
- Shipped end-to-end **MVP** features like Stripe payments, Google Maps integration, appointments, and Auth0 security
- Incorporated traditional NLP techniques (TF-IDF) to **accelerate search** indexing (SBERT embeddings) by **20%**

ACTIVITIES

BitNet : Implemented Microsoft LLM optimization whitepaper in **PyTorch**, wrote custom **CUDA** kernel

ZKML : Undergrad Research Assistant. Built experiments to benchmark zero knowledge proofs on **neural networks**

Urban Congestion Modeling : MacHacks 2022 winner. **Tensorflow** CNN predicting traffic congestion from birds-eye-view maps

Network Membership Protocol : Distributed systems. Built gossip protocol multicasting for node failure detection in **C++**