

# Leo Liu

Canadian Citizen

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## EDUCATION

**BSc Computer Science, University of Toronto**

May 2026

GPA: 3.95/4.0

Dean's List

- **Courses:** Compilers & Interpreters, Research in ML Compiler with MLIR, Computer Architecture, Operating Systems, Parallel Programming, Data Structures and Algorithms, Computer Networks, Intro to ML, Databases
- **Interests:** High Performance Computing, Computer Systems, Backend

## WORK EXPERIENCE

**ParaMathics**

Toronto, ON

Undergraduate Researcher

May 2025 – Present

- Contributed to 2:4 sparsity integration for OpenAI's Triton compiler, developing mixed-sparsity kernels and achieving up to 30% throughput at various sparsity levels compared to cuSPARSELt
- Extended Triton's autotuner to support preprocessing by modifying kernel argument handling and caching mechanisms, enabling optimal tile size discovery across varying sparsity levels and matrix dimensions
- Achieved up to 8% performance gains by optimizing kernels with autotuned configuration to address issues related to L2 cache utilization, also investigated tail effect and load imbalance

**Mozilla**

Toronto, ON

Software Engineer Intern

May 2025 – Present

- Engineered an Enhanced Tracking Protection flexibility option impacting over 1.5 million users, adding an reduce production feature to mitigate over 1,000+ site-breaking issues while maintaining privacy protection
- Responsible for implementing an infobar to notify existing users of the new flexibility option by working with cross-functional teams (Messaging Systems, UX and content)
- Accelerated diagnosis of web compatibility related issues by developing a devtool panel for QAs, introducing a new workflow increasing efficiency

**Seismic**

Toronto, ON

Software Engineer Intern

Sep 2024 – Dec 2024

- Worked as a part of Seismic LiveSocial. Delivered a highly requested full-stack feature giving admins greater access control over platform-specific content sharing, enhancing customization for over 2,000 client companies
- Transformed a client configuration update process to self-service, reducing configuration update time by 99% by migrating legacy configurations for 9 clients from file-based storage to MongoDB

**Konrad**

Toronto, ON

Software Development Intern

May 2024 – Aug 2024

- Owned the backend development of an internal employee gaming leaderboard, designing and implementing the core system architecture and SQL database schema
- Developed a daily data ingestion pipeline integrating 4 gaming platform APIs to automatically fetch and aggregate game statistics for over 500 employees, enabling real-time leaderboard functionality
- Optimized API efficiency by implementing GraphQL resolvers with Apollo Express, reducing complex nested query latency by 75% by eliminating request waterfalls.

**Skytrac**

Ottawa, ON

Software Development Intern

May 2023 – Aug 2023

- Reduced flight analysts' workflows by 15% by building a web dashboard with BackboneJS, automatically retrieving flight data from the MySQL database to allow efficient viewing and annotation of flight events
- Verified and identified inconsistent flight logs across 3 databases by implementing an automated tool that periodically ingests and evaluates data accuracy

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, TypeScript, C, C++, SQL

**Systems & Tools:** Git, Linux/Unix, Slurm, Vim, LLVM/MLIR, Nsight Compute