Leo Liu

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EDUCATION

BSc Computer Science, University of Toronto	Sep 2021 – May 2026
GPA: 3.95/4.0	Dean's List

- **Courses**: Research in ML Compiler with MLIR, Software Engineering, Computer Architecture, Compilers & Interpreters, Operating Systems, Data Structures and Algorithms, Computer Networks, Intro to ML, Databases
- **Activities**: President (2023) and Project Lead (2022) at Blueprint, Student Developer (2024) at UofT Dept of CS
- **Interests**: Backend Development, Computer Systems, High Performance Computing

WORK EXPERIENCE

Mozilla – Firefox Privacy	Toronto, ON
Software Engineer Intern	May 2025 – Present

- Delivered an Enhanced Tracking Protection (ETP) customization feature to over 1.5M+ users, giving users the option to mitigate over 1000 site-breaking issues in ETP-Strict mode, while preserving privacy protections
- Led the design and rollout of an interactive infobar, driving high user engagement and adoption through cross-functional collaboration with Messaging Systems and UX teams
- Boosted bug diagnostic efficiency by building a custom developer panel for QA teams, streamlining debugging process

ParaMathics Lab – ML Compiler for Tiled-Level Sparse Matrix Multiply	Toronto, ON
Undergraduate ML Compiler Researcher	May 2025 – Present

- Contributed to supporting 2:4 sparsity on NVIDIA tensor cores in OpenAI's Triton compiler by developing mixed-sparsity kernels, achieving up to a 37% increase in throughput compared to cuSPARSELt
- Optimized kernels to achieve up to 8% performance gains with autotuned configurations, addressing issues related to L2 cache utilization, tail effects, and load imbalance
- Achieved over 300% speedup in matrix compression by leveraging PyTorch to vectorize matrix metadata reordering

Konrad	Toronto, ON
Software Development Intern	May 2024 – Aug 2024

- Owned the backend development of an internal employee gaming leaderboard using Express, GraphQL and PostgreSQL, designed and optimized the SQL database schema and implemented several efficient GraphQL resolvers
- Developed a daily data ingestion pipeline that integrates four gaming platform APIs to automatically fetch and aggregate game statistics for over 500 employees, thereby enabling real-time leaderboard functionality

RELEVANT PROJECTS

ML Experiment – Food Classifier | *sklearn, numpy, pandas*

- Experimented with different machine learning algorithms including Random Forest and MLP to classify food items based on text responses, achieving an accuracy of 82% on the test set
- Followed ML best practices for model selection, including the use of confusion matrices and classification reports to assess performance and analyzing bias-variance decomposition for evaluating over/underfitting

LEADERSHIP

Blueprint, UofT Chapter – Software for Social Good	Toronto, ON
President	Aug 2023 – Apr 2024

- Led 40+ members in delivering pro-bono software solutions to 3 nonprofits, while establishing industry partnerships with Manulife and Guidewire to facilitate internship search events for 100+ students
- Established the Project Lead (PL) Hub and comprehensive the PL Handbook to standardize project management methodologies, client requirement scoping, and team engagement best practices
- Served as Project Lead for the development of an Android period tracker app, deployed on Google Play Store with 50+ downloads

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL, C, C++
Frameworks: React, GraphQL, Django, Prisma, Node.js, Express.js, LLVM/MLIR, PyTorch, Spring Boot
Systems & Tools: Git, Linux/Unix, Slurm, Vim, Nsight Compute, Docker, AWS