

Sunny (Xiang Lun) Wu

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EXPERIENCE

Huawei

Toronto, ON

Cloud Database DevOps Engineer

May 2025 – present

- Drove a **25x cumulative increase** in GaussDB performance on the TPC-H benchmark, optimizing query execution by reducing intermediary table sizes by **10x in PostgreSQL** and refining join orders
- Engineered a **modular C++ timing system** to synchronize and profile 22 SQL queries across 10 parallel streams
- Cut manual benchmarks from **2h+ to <10m** by automating workflows using Bash/Python, managing the full lifecycle from source compilation (Make) to execution and performance validation

University of Toronto Engineering Society

Toronto, ON

Webmaster

Apr. 2025 – present

- Managed a web ecosystem driving **408K monthly impressions** and **23.8K clicks**, optimizing site architecture for high-volume academic search traffic
- Achieved a **94% latency reduction** by eliminating N+1 query patterns, replacing MySQL database round-trips with in-memory data aggregation across 12,000+ file records
- Partnered with the Registrar to integrate a **Next.js API using SHA-256 HMAC** authentication to secure assets

Autodrive UToronto (aUToronto)

Toronto, ON

2D & 3D Object Detection Team

May 2025 – present

- Resolved critical orientation errors within the BEVFusion framework to achieve **>90% Average Precision**
- Developed an end-to-end cross-modal pipeline to autolabel **10k+ Ouster LiDAR frames** by transforming Cepton model outputs into CVAT-ready ground truth while **doubling throughput to 20Hz**
- Built an **OpenCV label viewer** for PyTorch to qualitatively validate 2D detections and augmentation consistency

Simulation Team

Sep. 2024 – Mar. 2025

- Secured a dominant SAE AutoDrive competition **1st Place** with a near-perfect 91 points in simulation
- Achieved a **300% optimization efficiency gain** through parallel computing and data preloading, minimizing weighted error across 13 hyperparameters and 4 targets via random search
- Automated evaluation of 12 vehicle maneuvers with a MATLAB/ROS pipeline to refine a 3DOF Simulink model

PROJECTS

ECE Pathmaker - React, TypeScript, Tailwind CSS, Firebase

Jan. 2025

- Overhauled UofT Engineering course selection tool for **1500+** students with a React drag-and-drop interface
- Reduced page load times from **30s to 0.4s** via optimized string serialization to store user layouts and custom course metadata, enabling real-time evaluation of graduation criteria
- Architected a **DAG** to model course prerequisites for instant conflict detection during layout edits

Reversi Bot - C

Mar. 2024

- Ranked **top 1% of 550** students for strategy and performance of an AI Reversi engine evaluating moves in **<1s**
- Implemented **Alpha-Beta pruning** and heuristic functions to analyze position strength, mobility, and control

EDUCATION

University of Toronto

Toronto, ON

BASc, Computer Engineering (Dean's Honour List)

Sep. 2023 - Apr. 2028

SKILLS

Languages : JavaScript, TypeScript, Python, C/C++, SQL (MySQL, PostgreSQL), PHP, MATLAB

Frameworks & Tools : React, Next.js, PyTorch, Django, Linux, OpenCV, Git, Vim