KYNA WU

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Education & Certification

University of Toronto – Toronto, Canada
BASc in Computer Engineering, Business Minor, AI Certificate   Expected 2026

Work Experience

Senior Technical Student – Capacity Planning & Grid Innovation   Sep 2024 – Aug 2025
Toronto Hydro | Toronto, Canada

- Analyzed large-scale time series data (station load, weather, EV demand, electrified heating) using Python (pandas, NumPy, scikit-learn).
- Assisted with capacity and reliability planning for electrical distribution stations, including load transfers, customer connections, and upgrade requirements.
- Produced reports and visualizations to guide infrastructure planning for major customers such as airports, universities, and data centers.

Intern – Parallel Optimization Tam   May 2023 – Aug 2023
National Supercomputing Center | Wuxi, China

- Modernized legacy Fortran simulations by applying parallelization techniques with MPI and multithreading, improving runtime performance on the Sunway TaihuLight supercomputer.
- Automated performance benchmarks and generated reports visualizing speedups and resource utilization for research teams.
- Worked on distributed compute workflows, ensuring reliable execution across thousands of HPC nodes.

Projects

Robotic Arm with AI-based Control (Capstone Project)   2025 Ongoing

- Designed and prototyped a robotic arm with SolidWorks and 3D-printed components; built custom PCB and motor control using ESP32.
- Programmed control software in C++/Python with Bluetooth and wireless USB communication for synchronized motion between remote and robotic arm.
- Integrated AI-based face tracking (Google Face Mesh) enabling dynamic response to user position.

Geographic Information System (ECE 297 Project, Ranked **Top 1** for Optimization)   2023

- Developed a C++ GIS application with interactive maps and real-time data (traffic, transit, weather, attractions).
- Implemented routing algorithms (Dijkstra, A*, Greedy) and experimented with reinforcement learning to optimize paths.
- Integrated OpenStreetMap and Libcurl APIs for live updates; built a responsive GUI using GTK.

Skills

Programming: Python, C, C++, Java, JavaScript, TypeScript, HTML, CSS, SASS, Git
Machine Learning: PyTorch, scikit-learn, data preprocessing, model fine-tuning, model deployment
Digital Circuit Design: Verilog, VHDL, Quartus Prime, ModelSim, FPGA, RTL, SoC design
Web Development: React, Node.js, Vue.js, Figma, Adobe Photoshop, wireframing, prototyping