Tyler Yan

3rd Year Computer Engineering Student, University of Toronto

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EDUCATION

BASc Computer Engineering, Minor in Artificial Intelligence and Machine Learning
University of Toronto, September 2021 (Expected Graduation: April 2025)

- Dean's List: 1st Year and 2nd Year, CGPA 3.71/4.00
- Walter Scott Guest Memorial Scholarship Award

Relevant Courses: Software Communication & Design, Computer & Programming Fundamentals, Data Structures and Algorithms, Operating Systems, Applied Fundamentals of Deep Learning, Computer Organization, Digital Systems.

TECHNICAL SKILLS

Languages: Python, C, C++, Java, JavaScript (React), Node.js, HTML/CSS, MATLAB, Assembly, Verilog, Swift
Technologies & Frameworks: Linux, Unix, Git, Pandas, PyTorch, MongoDB, PyMongo, Numpy, Flask, Bootstrap, Simulink, LTspice, Logism, Quartus Prime, ModelSim, CoreML, CreateML, scikit-learn

EXPERIENCE

University of Toronto, New College Residence Don **Aug 2023 – April 2024**

- Responsible for offering support, leadership, and guidance to 50+ undergraduate students.
- Respond to emergencies on and serve as the "Don-on-Duty" for all three New College Residence buildings.

helloMilo - iOS Mobile App **May 2023 - July 2023**

- Led a team of 3 to develop an iOS app to assess users' speech and provide comprehensive real-time feedback.
- Implemented Swift and Firebase to support client frontend and user login and data storage.
- Created machine learning models via CreateML with over 90% validation accuracy for various speech metrics (tone, speed, volume, and clarity) to perform audio analysis.

University of Toronto, FPGA Designer **Sep 2022 – Apr 2023**

- Developed a 16-bit processor to support 16+ ARM Assembly instructions.
- Integrated processor with the DE1-SoC board using Intel Quartus Prime and Verilog.
- Validated program functionality with self-created testbenches using ModelSim simulations.

Hack The MIST, Reducing Global Warming App **Mar 2023**

- Led a team of 4 to develop an app that estimates the temperature/weather and energy usage of Toronto over the next 30 years.
- Implemented machine learning and random forest regression using pandas, numpy, and scikit-learn to predict future trends based on calculated weather and energy usage correlations.
- Our project allows companies to optimally adjust their building temperatures in order to reduce energy consumption to help minimize contributions to global warming.

University of Toronto, Web Mapping and Navigation Service Project **Jan 2023 – Apr 2023**

- Led a team of 3 to design a mapping program that visualizes and solves travel and optimization problems in any city.
- Using C++ and GTK, queried opensource databases, utilized data structures (vectors, hash maps, binary search trees) and search algorithms (Dijkstra, Bellman-Ford) to find most time efficient route.
- Allows users to search for places of interest and directions with a pleasing and optimal GUI.

UofT Engineering Student Consulting Association, Full-Stack Mail Mobile App **Oct 2022 – Apr 2023**

- Led a team of 5 to develop a minimum viable product for a full-stack email mobile app for iOS.
- Employed Swift, React Native, and Firebase to develop the front and back end of the app.
- Enabled a software company to reinvent email applications with AI to optimize user experiences.

UofTHacks X, Full-Stack Roommate Matching Service Web App **Jan 2023**

- Within a 36-hour time constraint, developed a full-stack web application implementing a self-designed AI algorithm that calculated compatibility scores between potential roommates.
- The application was built using React.js, Node.js, Python, JS, MongoDB, HTML, Flask, and Bootstrap.
- Enabled users to create personal profiles, and to match and message with each other in real-time.