

Kevin Qu

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Education

University of Toronto—BSc, Engineering Science

Sept 2021 – May 2025

Average Grade: 92.5%, cGPA: 3.90/4.0, aGPA: 3.92/4.0, Dean's List Scholar

Courses: Data Structures & Algorithms, Deep Learning, Statistics, Computer Architecture, Math & AI for Robotics

Technical Skills

Languages: Python, C/C++, Bash, JS+HTML/CSS, Verilog, RISC-V, MATLAB, SQL, Java

Frameworks: ROS, PyTorch, scikit-learn, React, Node, Express, Flutter

Tools: Git, Linux, slurm, Quartus, ModelSim, Fusion 360, SQLite, Postman, MongoDB

Professional Experience

ML Intern

May 2023 – Present

AMD, CentML

Toronto, ON

- Working under AMD with CentML on deep learning compiler, Hidet: doi.org/10.48550/arXiv.2210.09603
- Implementing accelerated deep learning operators such as Matrix Multiplication, Normalization, etc.
- Benchmarking various deep learning CPU workloads in PyTorch + Tensorflow using AMD ZenDNN

Deep Learning Acceleration Engineer (General Motors-SAE AutoDrive)

January 2023 – Present

University of Toronto AutoDrive Team

Toronto, ON

- Retrofitting Chevrolet Bolt EV to achieve level 4 automation, 5x consecutive champions of GM-SAE AutoDrive
- Accelerating YOLO object detection inference by ~5x (to full speed) using OpenVINO, fully integrated in ROS2
- Coordinating with 4 subteams (object detection, navigation, etc.) to maximize performance and accuracy

ML Undergraduate Research Student

May 2022 – April 2023

BHK Lab, University Health Network. PI: Dr. Benjamin Haibe-Kains

Toronto, ON

- Developed ML pipelines streamlining research by up to 5x. Paper: doi.org/10.12688/f1000research.127142.1
- Created PyTorch U-Nets more accurate than human specialists (~80% Dice), trained models with nnUNet
- Sent large computation tasks to high-performance computers through slurm with Bash scripting

Robotics Software Engineer (SAE Aero Design Advanced)

June 2022 - Present

University of Toronto Aerospace Team

Toronto, ON

- Developing autonomous rover navigation and aircraft control software using ROS1 Python, C++
- Aircraft control with rQt, PX4, MAVLink, QGroundControl and performing simulations in Gazebo
- Conducting electrical hardware tests and rover & aircraft and assembling aircraft components

ML Project Developer

Sept 2021 – May 2022

University of Toronto Machine Intelligence Team

Toronto, ON

- Created employee attrition ML models (SVM, Decision Tree, K-means Clustering) with on IBM workplace data
- Built website with model inferencing fully integrated into Django, winning Best Technical Award
- Model predictions outperformed (93% accuracy) current research (85% accuracy) on the same data

Honors & Awards

University of Toronto Scholar (top 0.4% @ UofT)

2022

In-course scholarship awarded to the top 300 most outstanding undergrads out of 76,000 at UofT (top 0.4%)

Schulich Leader Scholarship (\$100k)

2021

\$100,000 award to 50 outstanding engineering students at 20 universities across all Canada

Projects

IntelliCord (devpost.com/software/intellicord) Hack the 6ix Finalist (top 8/70+)

Aug 2022

- AI Chatbot that provides mental health tips using co:here and GPT-3, made with Python and SQLite3
- Worked on Discord integration, co:here & GPT-3 API calls, SQLite management and statsmodels analysis

Abbyss (devpost.com/software/abyss-ewprci) MakeUofT Best "Useless Invention" Award

Feb 2022

- Table that caves in when objects are detected. Arduino UNO with several electrical & mechanical parts

Feed it Forward

Jan 2022 – May 2022

- Inventory manager CRUD web/mobile app built on MERN with barcode scanner on Heroku based on RFP