Kevin Qu

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Education

University of Toronto—BASc, Engineering Science   Sept 2021 –May 2025
Average Grade: 93.6%, cGPA: 3.93/4.0, sGPA: 4.0/4.0, Dean's List Scholar
Courses: Data Structures & Algorithms, Deep Learning, Statistics, Digital Systems, Computer Architecture

Technical Skills

Languages:	Python, C, C++, Verilog, RISC-V, JavaScript, HTML/CSS, Java, Bash, MATLAB, SQL, C#
Frameworks:	ROS, scikit-learn, PyTorch, React, Node, Express, Flutter, ASP.NET, Axios, jQuery
Tools:	Quartus, ModelSim, Fusion 360, Linux, Git, slurm, SQLite, Postman, MongoDB

Professional Experience

ML Undergraduate Research Student   May 2022 –Present
BHK Lab, University Health Network   Toronto, ON
- Working with scientists & PhD students on image segmentation with Python. Supervised by Dr. Haibe-Kains
- Developed ML pipelines streamlining research by up to 5x. Paper: doi.org/10.12688/f1000research.127142.1
- Used PyTorch to create U-Nets more accurate than expert human cancer segmentations (~80% Dice)
- Sent large computation tasks to high-performance computers through slurm with Bash scripting
- Created data standardization and trained ML models for Vector Institute AI challenge

Robotics Engineer   June 2022 - Present
University of Toronto Aerospace Team   Toronto, ON
- Robot and aircraft development in Linux using C++, Python, ROS, Gazebo, SOLIDWORKS, PX4, MAVROS
- Fabricating rover bot, aircraft and drones to compete in SAE Aero Design – Advanced
- Working on autonomous navigation with ROS Navigation, ground control and electrical integrations

ML Project Developer   Sept 2021 – May 2022
UofT Machine Intelligence Student Team (utmist.gitlab.io/projects/employeeattrition)   Toronto, ON
- Used scikit-learn's ML packages to SVM, Decision Tree and K-means Clustering models
- Created employee attrition prediction ML model based on IBM workplace data
- Built website with model inferences fully integrated into Django and won Best Technical Award
- Model predictions outperformed (93% accuracy) current research (85% accuracy) on the same data

Software Engineer Intern   Jun 2021 – Aug 2021
Idea Notion Development Inc. (ourposter.com) Markham, ON
- Developed C# console apps and Node.js scripts to call MapBox API for generating poster images
- Built webpages with HTML/CSS, JQuery, WordPress. Revolutionized OurPoster, allowing custom maps
- Automated manual image editing with Python Pillow (dealerai.com)

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) (schulichleaders.com/kevin-qu)   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

Abyss (devpost.com/software/abyss-ewprc1) 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 (feeditforwardapp.herokuapp.com)   Jan 2022 – May 2022
- Inventory manager project according to Request for Proposal built for Feed it Forward in Praxis 2 course
- CRUD web app built with MERN stack with fully-integrated barcode scanner and mobile view, on Heroku