

# Qingyuan Qie

437-779-8553 | [will.qie@mail.utoronto.ca](mailto:will.qie@mail.utoronto.ca)

## EDUCATION

---

**Honours Bachelor of Science in Computer Science**  
*University of Toronto, Faculty of Arts and Science, cGPA: 4.0*

Sep. 2017 – Present

## AWARDS

---

**Coxeter Scholarship in Mathematics**  
**Dorothy A. P. Walters Scholarship**  
**University of Toronto Scholar (2018-2019)**  
**Dean's List Scholar**

Oct. 2019  
Jan. 2020  
Sep. 2019  
2018 Winter, 2019 Winter, 2020 Winter

## EXPERIENCE

---

**Software Developer (Intern)**  
*SOTI Inc.*

May 2020 – Apr. 2021  
*Mississauga*

- Worked mainly on the C# backend of MobiControl, the company's flagship mobile device management system.
- Developed new features for MobiControl relating to the remote management of Windows 10 machines.
- Implementation and troubleshooting of automated tests using Behaviour-Driven Development.

**Research Opportunity Program (CSC399) student**  
*University of Toronto*

Sep. 2019 – Apr. 2020  
*Toronto*

- Worked closely with Professor Peter Marbach to research and develop a novel wireless protocol for a high-performance distributed wireless network on IoT devices.
- Implemented a Linux driver which improves the collective performance of a set of overlapping wireless channels.

**Teaching Assistant (CSC148: Introduction to Computer Science)**  
*University of Toronto*

Jan. 2020 – Apr. 2020  
*Toronto*

- Organized tutorials for 30 students weekly.
- Held office hours and marked exams.

**Undergraduate Researcher**  
*Fields Institute*

July 2019 – Aug. 2019  
*Toronto*

- Project: Image Guided Radiation Therapy Net.
- Developed a convolutional neural network that performs image classification to provide quality assurance for medical image registration

## PERSONAL PROJECTS

---

**RAIN Project** | *Rust, LLVM*

May 2020 – Present

- As a small team, worked on developing a novel RVSDG-based research compiler for a functional language with linearly typed effects, which compiles to LLVM
- Focused on developing the LLVM code generation module in the backend

## TECHNICAL SKILLS

---

- Proficiency in multiple programming languages, including C, C++, Rust, C#, Python, Haskell, and Java.
- Practical experience with concurrent and distributed systems, including multithreading, fault-tolerant distributed computing and networking, and GPU development. Particular experience with pthreads, OpenMP, MPI, CUDA, OpenCL.
- Familiar with computer architecture principles, with a particular focus on operating system development, heterogeneous computing and cache-aware optimization. Experience optimizing highly parallel code for CPUs and GPUs, and developing low-level systems and networking primitives and utilities.
- Experience with numerical algorithms and scientific computing, as well as their applications in Machine Learning. Familiar with TensorFlow, PyTorch, and MATLAB.
- Compiler development and programming language design experience, including the use of LLVM IR as a backend.