Ryan Seto

647-535-3946 | ryan.seto@mail.utoronto.ca | linkedin.com/in/ryan-shi-an-seto | github.com/RyanS07

Education

University of Toronto — Toronto, Canada
B.A.Sc in Computer Engineering – 3.55/4.0 cGPA — *Expected June 2026*

- Pursuing an Artificial Intelligence Minor and Music Technology Certificate
- Awarded the *UofT National Book Award* in 2021 for ranking top of the class in high school with a 98.3% final average

Experience

ECE Student Research Fellowship | *Kubernetes, Linux, Arduino, Fusion 360, C++, C* — May 2023 – Present
University of Toronto — *Toronto, Canada*

- Developing a Raspberry Pi cluster with Kubernetes to study its potential for mathematical operations
- Created and taught a robotics workshop where students learn to CAD, assemble, and program an Arduino-controlled robot for line tracking, with 75% of students rating their experience 10/10 and a 100% recommendation rate
- Resulted in full funding and a dedicated facility for next year's workshop from the Chair of the ECE department
- Designed and taught a software workshop on C and object oriented programming in C++, with 83% of students rating the overall workshop 8/10 or higher alongside requests for another workshop

Back-End Software Engineer Intern | *Python, FASTAPI, Hasura, GCP* — May 2022 – Aug. 2022
Heliolytics — *Toronto, Canada*

- Developed the back-end of a portal using Python and FASTAPI for clients to view performance reports of their solar fields
- Completed a user authentication middleware that allowed developers to toggle authentication during development, streamlining the development of 10+ back-end APIs by removing the need for admin tokens in each request
- Linked a report's GCP files and images by relating image UUIDs to reports in a PostgreSQL database using Hasura
- Refactored a legacy script that processed solar field data from Google Drive into a PostgreSQL database using PyDrive2 and Hasura to operate remotely and match the company's modern coding standard

Engineering Assistant Intern | *Arduino, Solidworks* — Aug. 2021 – May 2022
ePIC Blockchain — *Toronto, Canada*

- Prototyped an Arduino circuit that monitored the flow rate and temperature of a hash board water block with 1.5% error
- Created a 3D printed case in Solidworks to protect the Arduino circuit from water, leading to no damaged parts
- Designed housing for a client's Internet router using Solidworks and 3D printed two separate orders
- Implemented a fixture to hold PCA boards in place using Solidworks and 3D printing to improve compatibility validation

Software Engineering Intern | *Python, Flask, OpenCV* — May 2019 – Aug. 2019
Heliolytics — *Toronto, Canada*

- Built a trade show demo using Flask that could take an infrared photo of the user in exchange for their contact information
- Extracted infrared footage using an IR camera's SDK and OpenCV in order to stream the footage to the user interface

Projects

Grocery Planner | *C++, Linux, Git* — Jan. 2023 – Apr. 2023

- Built a full-stack application to plan grocery routes by providing an ArcGIS user interface to load and save routes
- Processed OpenStreetMap geolocation data into an object oriented database and rendered the map using GTK

Music Genre Classifier | *Python, Tensorflow, NumPy* — Feb. 2023 – Mar. 2023

- Trained a convolutional neural network on 100 songs to predict the genre of a music sample to 70% accuracy

SHAD2020 Microgravity Experiment Competition | *Solidworks* — Jul. 2020 – Aug. 2020

- Designed a kicker mechanism in Solidworks to repeatedly strike a shear thickening non-Newtonian fluid in microgravity in order to study its shock absorbency and scope its potential as astronaut protection
- Awarded *Top 5 Finalist* out of 62 teams competing for a chance to fly their experiment to space on Blue Origin's New Shepard rocket in 2021