

github.com/timchenggu123

timgu.me

TIM GU



www.linkedin.com/in/Tim-ChengGu



c28gu@uwaterloo.ca

**The University of Waterloo Computer Engineering 2022**

**Skills \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- |
| **Programming**: C, C++, Python, Qt5 | **Web**: Html5, CSS, JavaScript, SQL Server |
| **Mobile**: Java, Android Studio | **Data Science**: TensorFlow, MatLab, R, VBA |
| **Hardware**: VHDL, Verilog, RISC V Assembly | **System:** Linux (ubuntu), C, shell script. |

**Experience \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Ambient Air Data Analyst** *Environment and Climate Change Canada*

[Apr 2018 – Sep 2018]  
Developed custom data analytics software using a combination of R, MatLab, SQL and VBA. Analyzed and reported on data between 1997 to 2017. Migrated data from MS Excel and MS Access database to the NAPS SQL database. Assisted in redesigning the NAPS Web Portal to support real-time data updates and interaction.

**Agile Web Project Coordinator**

*QingPath Inc.*

[Jan 2017 – Apr 2017]  
Agile Web Development for community-centric small businesses with Mobile-First development concepts in mind. Worked on projects built using Bootstrap framework with html5, CSS3 and JavaScript. Performed cross-browser QA testing and other tasks.

**Engineering Student**

*Township of South Frontenac.*

[Sept 2017 – Dec 2017]

Created A custom traffic managing and tracking software.

**Projects \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SaveMi**

*Android & Google Cloud API*

[Jan 2019 – Present]

**Winner of 2019 Waterloo EngHack Best Use of Google Cloud Platform.** A machine vision empowered personal heath monitoring app for people with severe allergies. Identify potential allergy sources from photos taken, send out warnings and store the record in the cloud.

**Flow AI**

*VB & JavaScript*

[Spet 2019 – Present]

**Winner of 2019 Hack the North** NLP empowered application capable of generate presentation from speech and complete other tasks such as web scraping and shopping.

**OrangeScript**

*C++*

[Jun 2019 – Present]

An imperative, dynamically typed, interpreting programming language. OrangeScript supports first class functions and automatic garbage collection.

**FlashMemorizeDroid**

*Android Studio & Java*

[Oct 2018 – Present]

An Android application capable of taking lines in a text document and generate a deck of flashcards from it. The program offers various card-shuffling methods and tracks user record.

**Extracuricular\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**UW SAE Autonomous Vehicle Team**

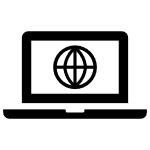
*Core Member. Data Processing*

Responsible for high level image-sensor data stream fusion. Languages used primarily consist of C++ and Python.

**UW Concrete Team**

*Software Captain*

Created and maintained custom software used in design process. Examples include Concrete Neural Network. Also maintains website.



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**The University of Waterloo Computer Engineering 2022**

Dear Recruiting Manager,

I am a 2B Computer Engineering Student writing to express my interest in the position your company posted on WaterlooWorks. I would like to first thank you for your time reading this cover letter.

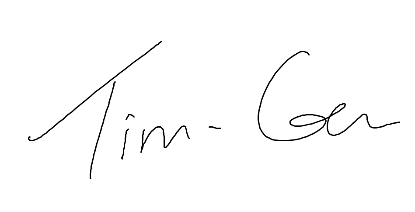
I am a second year level student who would be entering my third year by the time I join your team in winter 2020. I will have completed courses covering a large variety of topics relating to both hardware and software, including ECE 250, Algorithms and Data Structures, ECE222, Computer Organizations, ECE 252, System Programming, ECE 298, Prototyping, and many more by the time I join your team. I have track record of good performance academically, with a cumulative average of 82 percent, I rank among the top 25% in my cohort in my most recent term.

However, I do not let school limit my spectrum of skills and knowledge. Outside class, I love exploring with different technologies and framework. One of my most recent projects is OrangeScript, an imperative, dynamically typed, interpreting programming language written in C++. I have also authored FlashMemorize, an Android flash card app that is being published on Google Play Store. CppNeuralNetwork is also a fun project where I discover the mechanism a basic SGD neural network by creating it using C++ from scratch. More of my projects can be found on my portfolio page at timgu.me.

I am also a great team player. In fact, I am part of two student design teams at the University of Waterloo. I am one of the core members of the University of Waterloo Autonomous Vehicle Team, where I integrate and pipeline hardware data coming from sensors such as the camera and the lidar with the computer vision software to realize seamless autonomous piloting. I also captain the University of Waterloo’s Concrete Design team’s software division, where we construct advanced GAN networks using TensorFlow to generate efficient, innovative mixes, design custom 3D processing software for fast fluid dynamic calculations and simulations, and more.

I am sure my dynamic set of skills will make me a great addition to your team, and I look forward to talk about my experiences further with you in person.

Thank you!



Tim-Cheng Gu