Tom Wu

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EDUCATION

University of Toronto St. George

Astronomy & Physics Specialist, Computer Science Major with focus in scientific computing

Toronto, Canada   Sep. 2021 – May.2025

National University of Singapore, Undergraduate Research Opportunities Program in Science

Singapore   May. 2023 – Jul.2023

International Curriculum Center of High School Affiliated to Renmin University of China (ICC)

Beijing, China   Sep. 2018 – Jul.2021

The First Breach School of High School Affiliated to Renmin University of China (RDFZFX)

Beijing, China   Sep. 2015 – Jul.2018

AWARDS & SCHOLARSHIPS

As an International Student, I'm only eligible for a limited range of scholarships.

The Regents In-course Scholarship   **Aug.2023**
- Awarded for academic performance achieved in the second group of 5.0 credits

Dean's List Scholar   **Jun.2023**
- Awarded to students with a cGPA of 3.50 or higher after completing 10.5 credits

Undergraduate Summer Research Exchange Award   **May.2023**
- Awarded to successful applicants under the Summer Research Program

The Regents In-course Scholarship   **Aug.2022**
- Awarded to students who have achieved overall A standing in First Year

Dean's List Scholar   **Jun.2022**
- Awarded to students with a cGPA of 3.50 or higher after completing 5 credits

2021 Advanced Placement Exam   **Jul.2021**
- AP Scholar with Distinction Award

2020 Advanced Placement Exam   **Jul.2020**
- AP Scholar with Distinction Award

2020 International Mathematics Modeling Challenge   **May.2020**
- Global Meritorious Award (Top 4), Regional Outstanding Award (Top 2)

2019 Canadian Open Mathematics Challenge   **Nov.2019**
- Gold Medal

2019 Advanced Placement Exam   **Jul.2019**
- AP Scholar Award

2019 Physics Bowl   **Mar.2019**
- World Top 100

ACADEMIC ACTIVITY

AST430 Supervised Study in Astronomy and Astrophysics   **Toronto, Canada**

Student   Sep. 2023 –

I'm currently doing a Supervised Research Project supervised by Professor Maya Fishbach. My ongoing project focuses on Understanding Black Hole Populations with Gravitational Waves and Gamma-Ray Burst. Using GWTC-3 data and assuming the progenitor is given by Long GRB rate, I will estimate the Delay Time Distribution of Binary Mergers, estimate GRB beaming angles and explore the dependence on spin. I attended the graduate-level course AST3101 - Black Holes and Neutron Stars: Gravity during the first half of the semester to build up background knowledge. We have achieve some progress and are currently preparing for a paper "Comparing populations of long gamma-ray bursts and merging binary black holes".

Summer UROPS Research Exchange at NUS   **Singapore**

Exchange Student   May. 2023 – Jul. 2023

I completed a (for-credit) research project at the National University of Singapore (NUS) supervised by Professor Alexey Berdyugin. My project focused on studying the possibility of using Machine Learning techniques to find and map 2D materials exfoliated onto SiO2 substrate. I worked on building the Software and Hardware that enables the automatic mapping and recognition of exfoliated 2D materials, python was used intensively in constructing the software, I assisted the training of the Machine Learning model by operating microscopes to capture and label samples; Arduino Controllers and 3D CAD Modeling were used to construct the Hardware.

Physics Second Year Learning Community   **Toronto, Canada**

Member   Sep. 2022 – Apr. 2023

After being accepted into the Physics Second Year Learning Community, I contributed actively to bi-weekly discussions on Physics and study strategies. I successfully completed the program and earned a co-curricular record credit.

Recognized Study Group   **Toronto, Canada**

Group Leader   Feb. 2022 – May.2022

With a grade of A+ in the prerequisite course, I applied to be a Recognized Study Group Leader of the first-year advanced physics course PHY152. I completed the required training and received a certificate of completion. I successfully led a group of six people during the semester. I practiced my coordination and communication skills effectively during RSG. I received a co-curricular record credit as a certificate of completing my duty successfully.

Python Coding Club   **Beijing, China**

Vice President – Tutor   Oct. 2019 – Sep. 2020

Member   Oct. 2018 – Sep. 2019

I worked as a tutor helping people who face difficulties in the 10th grade course "Coding in python", which was necessary for the Huikao (Highschool graduation exam) in my school. I

provided support to students who need additional reviewing and helping. I also held additional review sessions prior to the exam.

United States Academic Decathlon   **Beijing, China**

Team Leader   Oct. 2019 – Apr. 2020

USAD is the biggest high school interdisciplinary academic competition in the world. I became a team leader for one of my high school's USAD teams. I organized meetings and reviewing sessions of the team. I tutored my team according to the textbook.

Columbia University Summer Program   **New York, U.S.A**

Student   Jul. 2019 – Aug. 2019

I participated in the Columbia University Summer Program in 2019 with focus in Coding in C. During the process of the summer program, I improved my knowledge in coding and utilized my skill to successfully build a Minesweeper program as a final project. I also received a certificate of successful participation.

PROGRAMMING SKILLS

Python

Proficient   6 years

My primary programming language that I've been using since Grade 9 in various projects. I took a Python Coding Course (CSC148) at the University of Toronto which greatly enhanced my understanding in the language. During a research exchange, I applied Python extensively to construct software facilitating the automatic mapping and recognition of exfoliated 2D materials, which underscores my ability to use Python in addressing complex practical challenges.

Java

Proficient   5 years

In Grade 10, I independently studied Java, the result of my self-study was tested in the AP Computer Science. At UofT, I systematically learned Java in CSC207 - Software Design, and applied it collaboratively in a final project with other people.

C

Beginner   1 year

During Highschool, I Participated in a Columbia University summer program focusing on Coding in C, gaining basic understanding and hands-on experience in the language.

R

Beginner   1 year

Learned and applied R for data analysis during my second year while taking STA247 – Probability with Computer Applications, gaining basic understanding and practical experience in the language.

Matlab

Beginner   1 year

I developed basic skills in writing scripts for scientific calculations and estimating uncertainties during my third year at the University of Toronto in the CSC336 - Numerical Methods course. I have basic practical experience and understanding in Matlab.

SCHOOL ASSOCIATION & STUDENT POSITION

MAH4 Floor Council	**Toronto, Canada**
Floor Vice President (yr 3)	Sep. 2023 – May. 2024
Floor Vice President (yr 2)	Sep. 2022 – May. 2023

I was elected the Vice President of the residence floor I am currently living in; I organize student activities and help people when they need assistance. As one of the only two second year students here, I answered first-years' questions about UofT and share my experience with them.

ICC Student Union	**Beijing, China**
Vice President of Technology (IT)Department	Oct. 2019 – Sep. 2020

I participated in the election of Student Union of ICC and became the Vice-president of Technology Department of the student union. I collaborated with others and developed the online-print project. I also provided technology support in ICC.

Bridges Computer Club	**Beijing, China**
President	Oct. 2019 – Sep. 2020
Member	Oct. 2018 – Sep. 2019

With more than 110 members, it's the biggest technology club in the whole school. I organized activities and wrote articles for the club, I also provided consulting services for students and teachers in the school. I participated in online discussions every day. I improved my knowledge about electronics and coordination skills after I became the president of the club.

KEEER Developer Group	**Beijing, China**
Hardware Manager	Oct. 2019 – Sep. 2020
Member	Oct. 2018 – Sep. 2019

KEEER is a group of students who are good at computer science, we develop projects together. I collaborated with others and developed the online-print project, which is been used by over

a half of ICC Student frequently, and other projects as well. I also provide technological support, managing servers and printers, I fix them when hardware encounters problems.

VOLUNTEERING & COMMUNITY SERVICE

AstroTour at the University of Toronto   **Toronto, Canada**

Volunteer   Nov. 2022 –

I work as an undergraduate volunteer at UofT AstroTours, I help setting up equipment and guide people during the event as well as answering Astronomy-Related Questions from the public. Some of my duties include interactive demo guide, lab tour guide, telescope tour guide and others.

2023 Victoria College Orientation   **Toronto, Canada**

Orientation Leader   Sep. 2023

I was selected as an Orientation Leader in my residence college's orientation, I went through training and acquired a certificate, completed the duty as an Orientation Leader, help running various activities during the Orientation.

RDFZFX School Library   **Beijing, China**

Voluntary Librarian   Sep. 2015 – Jul. 2017

I worked as a volunteer in the school library where I recorded and updated the status of books and magazines. I also received a lot of computer operation skills, including fast typing in both English and Chinese.