Tom Wu

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EDUCATION

University of Toronto St. George, Honours B.Sc   Toronto, Canada Sep. 2021 – May.2025

- Astronomy & Physics Specialist, Computer Science Major
- Dean's List Scholar in all previous years
- One Summer Semester research exchange at the National University of Singapore

High School Affiliated to Renmin University of China (RDFZ)   Beijing, China Sep. 2018 – Jun. 2021

- AP Curriculum Program, 8 APs with score 4+

AWARDS & SCHOLARSHIPS

Dean's List Scholar	2024
Victoria College - The Regents In-course Scholarship	2023
Dean's List Scholar	2023
Undergraduate Summer Research Exchange Award	2023
Victoria College - The Regents In-course Scholarship	2022
Dean's List Scholar	2022
Regents Admission Scholarship	2021
IMMC Global Meritorious, Regional Outstanding	2020

RESEARCH EXPERIENCE

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

Supervisor: Prof. Maya Fishbach   Sep. 2023 – Present

- Focus on understanding black hole populations with gravitational waves and gamma-Ray burst
- Estimate binary black hole merger delay time distribution and spin dependence.
- Attended graduate course in Compact Objects Gravity, applied knowledge in the research project, proved by ability to comprehend advanced material.
- Paper in preparation, intended to be published.
- Planning to continue the topic in 2024-2025 Fall/Winter Semester

Supervised Study in Astroparticle Physics   **Toronto, Canada**

Supervisor: Prof. Miriam Diamond / Prof. Ziqing Hong   May. 2024 – Present

- Ongoing project on detector simulations for the SuperCDMS experiment.
- Run simulations using ComputeCanada Supercomputing Clusters.
- Model trigger delay in detector electronics.
- Aim to rewrite NoiseSim based on acquired data to improve simulation accuracy.

Summer UROPS Research Exchange   **Singapore**

Supervisor: Prof. Alexey Berdyugin   May. 2023 – Jul. 2023

- Studied the possibility of using Machine Learning techniques to find and map 2D materials exfoliated onto SiO2 substrate.
- Worked on building the software and hardware that enables the automatic mapping and recognition of exfoliated 2D materials Attended graduate course to build on background knowledge.
- Assisted machine learning model training by operating microscopes to capture and label samples.
- Constructed hardware with Arduino Controllers and 3D CAD modelling, the project saves time by automating the tedious flake search process.

ACADEMIC EXPERIENCE

Summer Particle Astrophysics Workshop   **Toronto, Canada**

Student Participant   May.2024

- Participated in this intense 2-week workshop directed at incoming undergraduate and master's students new to the field of particle astrophysics.
- Applied skills and knowledge in the workshop to Astroparticle Physics Research Project.

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

Member   Sep. 2022 – Apr. 2023

- Contributed actively to bi-weekly discussions on Physics and study strategies.
- Practiced communicating and collaborating skills in academics in a group setting.

Recognized Study Group   **Toronto, Canada**

Group Leader   Feb. 2022 – May.2022

- Completed certified leader training, systematically learned important aspects of working in an academic group.
- Displayed leadership and communication skills in a group of 8.

PROGRAMMING LANGAUGE

Proficient	Python
Intermediate	Java
Basic Experience	MATLAB, C, C++, R

EXTRACURRICULAR EXPERIENCE

MAH4 Floor Council   **Toronto, Canada**

Floor Vice President (yr 3)   Sep. 2023 – Present

Floor Vice President (yr 2)   Sep. 2022 – May. 2023

- Elected Vice President of the floor during the academic year.
- Organized and coordinated extracurricular activities.

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

Volunteer   Nov. 2022 – Present

- Help setting up equipment and guide people.
- Answer Astronomy-Related Questions from the public.
- Interactive demo guide, Lab tour guide, Telescope tour guide

2023 Victoria College Orientation   **Toronto, Canada**

Orientation Leader   Sep. 2023

- Completed certified training, studied and tested communication skills.
- Ran various activities during the Orientation, trained and served intensely for 95 hours within a week.