

# Shuhan Zheng

University of Toronto St. George Campus (UTSG)  
Physics and Astronomy Undergraduate

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## Education

**University of Toronto**, Toronto ON, Canada.

HBSc., Major in Physics, University of Toronto, 2020 to 2024 (expc.).

HBSc., Major in Astronomy and Astrophysics, University of Toronto, 2020 to 2024 (expc.).

**Marianopolis College**, Montreal QC, Canada.

Pure & Applied Science DEC, 2018 to 2020.

## Relevant Experiences

### • China Spallation Neutron Source (CSNS)

- Summer research internship in Dr. Xin Tong's Polarized Neutron group, May to July 2023.
  - \* During this time, I collaborated with Dr. Tianhao (Radian) Wang and Dr. Ahmad Salman to develop a polarized neutron imager that can directly observe the magnetic field of a given sample in 3D.
  - \* I was responsible for the design and implementation of various neutron-optical simulations and data analysis programs. One of these programs is a raytracing-based simulation that can simulate the detector's output when taking a snapshot of the sample under a diffusive neutron light source.

### • University of Toronto Physics Student Union (UofT PhysU)

- Vice-President of Internal and External Affairs, 2023 to 2024 academic year.

### • University of Toronto Aerospace Team (UTAT) Space Systems

- Data Processing subsystem
  - \* Since February 2023, Keystone correction project team lead. I am responsible for early feasibility study, progress tracking, and team management.
  - \* Since September 2021, member of Smile correction project team. I was a part of a team that develops, implements, and tests an algorithm that removes smile distortion.
- Mission Science subsystem (disbanded due to mission progress)
  - \* General member, September 2021 to August 2022. Our task was scoping for alternative missions for the team's CubeSat project FINCH, which was published in the team's submission to Small Satellite Conference 2022.

### • Canadian Association of Physicists (CAP) Exam

- From 2017 through 2019, I attended the CAP prized exam multiple times and ranked higher and higher in the province of Quebec each time. My highest rank was within top 10.

### • Moon Base Design Contest by Moon Society, December 2020 to January 2021

- Captain and design lead of a finalist team;
- First author of the team's design paper.

### • Marianopolis Propulsion Laboratory, a student rocketry society at Marianopolis College, Montreal

- Co-executive, 2019 to 2020 academic years;
- Outreach director, 2018 to 2020.

### • Various tutoring jobs, freelance, mid- to long-term, pro bono

## **Notable Skills**

- Python programming and LaTeX typesetting;
- Analog and digital electronics design and prototyping, including applications involving Arduino microcontrollers;
- Technical drawing, including designing parts with SolidEdge. I am also familiar with making simulations with COM-SOL Multiphysics;
- Scientific and technical writing, including lab reports and scientific journal articles.

## **Languages**

Native Chinese (Mandarin)

Fluent English