
Ruyi Xu

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About Me

I am a 4 year Astronomy & Physics specialist at the University of Toronto. I have research interests in the fields of Solar Physics, Star Evolution, Formation and Astro-fusion processes. I am a disciplined and fast learner looking to explore more fields in Astronomy and Astrophysics. I intend to work toward a teaching professor role and actively participate in outreach.

Experience

University of Toronto / Part-Time Research Assistant

September 2023 - PRESENT

Looking into star formation regions with machine learning packages under the supervision of Prof. Rachel Friesen at Dunlap institute for astronomy and astrophysics looking into star formation regions under the supervision of Prof. Rachel Friesen at the Dunlap Institute for Astronomy and Astrophysics

Tutor Doctor / Part-Time Tutor

September 2022 - PRESENT

Tutoring high school students in Math and Physics on a part-time basis. Awarded Tutor of the Month in June 2023.

Physics Student Union / Treasurer

September 2022 - PRESENT

Involved in budgeting, looking for sponsors and processing reimbursements for the Student Union.

Singapore Armed Forces / Combat Medic

October 2019 - June 2021

Worked Mainly as a triage medic at the camp's medical centre, volunteered to be part of the team to triage foreign workers relocated to an army base during COVID-19, awarded the COVID-19 Resilience Medal for my contributions

Boys' Brigade Singapore / Volunteer Officer

August 2013 - June 2021

Graduated from the programme in 2016 and returned to train as an officer cadet and become an officer in 2018. Involved in planning and giving lessons on citizenship, life skills, etc. Providing young boys with a safe space to exercise and develop their leadership and discipline.

Education

University of Toronto / Astronomy & Physics

September 2021 - June 2025

Notable courses taken include: AST399Y1 Research Opportunity Programme, Designed 2 Astronomy labs for undergraduate Astronomy courses under the supervision of Prof. Lea Hirsch at the University of Toronto Mississauga. CTA200H1 Computing in Astrophysics, learnt how to use Git, access cloud computing, Monte Carlo methods and more.

Future notable courses: AST425Y1 Research Topic in Astronomy and Astrophysics, intend to continue my project from my research position and work towards publication. AST431Y1 Supervised Study in Astronomy & Astrophysics, will be learning more on nuclear processes in Astronomical settings.

Catholic Junior College / S-C GCE 'A' Levels

Selected to participate in the National University of Singapore Science Research Programme as a Higher 3 course for 'A' Levels. Worked on a thesis on Modified Energy Dispersion Relations in Neutrino Oscillations

Awards

ACE UTSG stock market challenge / ACE UTSG

August 2023: 2nd Placing

Chinese Professional Society Student Challenge / Chinese Professional Society

August 2023: Semi-Finalist

Global Learning Case Competition / University of Toronto

February 2023: 1st Placing

PYJAC 2022 / University of Toronto Mississauga WiSC

January 2022: 1st Placing in Beginner Category

UEC Case Competition / University of Toronto Mississauga Undergraduate Economic Council

October 2021: 1st placing

February 2022: 4th placing

October 2022: 2nd placing

October 2023: 2nd placing

Associated Works and Projects

Photometry of Type II Supernova SN 2023ixf with a Worldwide Citizen Science Network DOI: [10.3847/2515-5172/ace41f](https://doi.org/10.3847/2515-5172/ace41f)

Longitude Latitude finder tool as part of Astronomy lab designed for undergraduates

<https://raw.githubusercontent.com/ruyixu00/Lat-Long-Finder/main/index.html>

Project from PYJAC 2022, "BLOOP" <https://github.com/ruyixu00/Bloop>

Thesis on Modified Dispersion Relations in Neutrino Oscillations
https://ruyixu00.github.io/SRP_Paper.pdf