

Feiyu Quan

feiyu.quan@mail.utoronto.ca | [LinkedIn](#) | [Twitter](#)

Education

University of Toronto Scarborough

Honours Bachelor of Science, Specialist Program in Physics and Astrophysics

GPA: 3.79/4.00

Fall 2019 – Present

Skills and Interests

Familiar with Python, Jupyter Notebook, \LaTeX and C. Basic knowledge of Linux, Git, and Fortran. Interested in applying numerical simulations and techniques to solve various problems in astrophysics.

Awards

University of Toronto Scarborough Dean's List

Fall 2020, Fall 2021

DPES Excellence and Leadership Awards

Year 2022

Research Experience

Research Project: A new algorithm to detect resonances in extrasolar planetary systems

Fall 2022

- We aim to improve an existing method for detecting mean motion resonances in planetary system. The method may be applied to secular resonances as well.

Supervisor: [Professor Hanno Rein](#).

CITA Summer Undergraduate Research Fellowship: How do disk galaxies warp?

Summer 2022

- The project explores the processes that drive such disk deformations, by analyzing outputs from Illustris TNG50, a state-of-the-art magneto-hydrodynamical cosmological simulation that computes the formation and evolution of hundreds of thousands of galaxies.

Supervisor: [Dr. Neige Frankel](#) and [Dr. Joshua Speagle](#).

Research Assistant: Investigate the statistical properties of star-forming clouds

Fall 2021, Winter 2022

- The project investigated the statistical properties of star-forming clouds in our Galaxy, including gas densities, temperatures, and velocity structures, to compare these observed values with predictions from numerical simulations of how stars form. Financially supported by the University of Toronto Work Study program.

Supervisor: [Professor Rachel Friesen](#).

Research Project: Dynamical analysis of a recently discovered extra-solar planetary system using numerical tools

Summer 2021

- Analysis of planetary system TOI-1260. We applied numerical simulation to the system to study its dynamical stability, and used MCMC to constrain the rate of precession of planet orbit to predict their transits.

Supervisor: [Professor Hanno Rein](#).

Teaching Experience

Teaching Assistant: PHYA10, Physics I for the Physical Sciences

Fall 2021

- Facilitating a 2 hour practical session each week for approximately 20 students including working through problems in small groups and demonstrating key problem solving methods. Managing detailed record of students performance and attendance.

Physics Tutor at Environmental and Physical Sciences Students' Association

Fall 2020, Winter 2021

- Physics tutor at UTSC EPSA, Physics Study Centre. Helping students understand concepts and solve problems in first-year physics (PHYA10/A11, PHYA21/A22).