# Ruizhe Wang

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**Research Interests**

- Atmospheric characterization of Exoplanets.
- Formation and current stage of solar system bodies and exoplanets.
- Scientific computing and machine learning for applications in astronomy .

**Education**

*B.A. in Astronomy (Astrophysics Concentration), Computer Science*
**Cornell University**, Ithaca, New York                              Aug. 2020 - May 2024

**Publications**

**Ruizhe Wang**, Ryan MacDonald, "Open-Source High resolution retrieval framework for exoplanet transmission and emission spectra" *In prep.*

**Research Experiences**

*Machine learning as surrogate to exoplanet atmospheric retrieval*          Summer 2022
Cornell University
Mentored by Nikole Lewis, Ryan MacDonald

*High-resolution cross-correlation spectroscopy*          August 2022 - Present
Cornell University
Mentored by Nikole Lewis, Ryan MacDonald

*Patchy Clouds and 3D structures on young, hot exoplanets*          June 2023 - Present
California Institute of Technology
Mentored by Heather Knutson, Julie Inglis

*Detectability of Earth through time with ELTs*          Oct 2023 - Present
Cornell University
Mentored by Lisa Kalteneggar, Ryan MacDonald

**Teaching Experience**

**Teaching Assistant**
Department of Computer Science, Cornell University

- CS 4780: Introduction to Machine Learning          Spring 2022
- CS 4740: Natural Language Processing          Fall 2022
- CS 4789: Introduction to Reinforcement Learning          Spring 2023

Department of Physics, Cornell University

- PHYS 3316: Basics of Quantum Mechanics          Fall 2023

**Talks**

"Direct Imaging of Exoplanets"
Seminar: Topic of Astronomy and Planetary Science, Cornell University   March 2023

"High-Resolution Retrieval for Exoplanet Transmission and Emission Spectra"
- Undergraduate Astronomy Research Seminar, University of Rochester
- Cornell Exoplanet Conference, Cornell University          April 2023

"Simulating Detectability of molecules for Ground-based, High-resolution Spectroscopy"
Seminar: Topic of Astronomy and Planetary Science, Cornell University     May 2023

"Patchy Clouds on Young, Giant Planets and Ways to Infer Them"
SURF Seminar Day, Caltech                                          Summer 2023

**Posters**            "High-Resolution Retrieval for Exoplanet Transmission and Emission Spectra"

- Undergraduate Research Poster Forum, Cornell University     May 2023
- Sagan Summer Workshop, California Institute of Technology     July 2023

**Outreach**           *Volunteer*, Expanding Your Horizons, Cornell University     April 2023

- Science education conference for middle school students whose backgrounds are underrepresented in STEMs

**Extracurricular**    *Running*
**Activities**
- San Francisco Marathon, Chicago Marathon     2023

*Triathlon*
- Jersey Genesis Triathlon (Sprint), Boston Triathlon (Olympic)     2023
- Training with Caltech Triathlon Club     Summer 2023

*Squash*
- Cornell Club Squash     Fall 2021-Present
- 1st Place in Cornell Spring Squash Tournament     April 2023
- 1st Place in Caltech Summer Squash Tourney     August 2023

*Bridge*
- 1st place in Youth North American Bridge Championship (1000$) Summer 2022
- North American Bridge Championship     Fall 2023
- Medals in World Youth Bridge Championship for Team China     Before 2020