SARAH JIANG

University of California San Diego ⋄ San Diego, CA

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EDUCATION

University of California San Diego — Ph.D. in Astronomy September 2024-Present

Georgetown University — B.S. in Physics August 2017-May 2021

RESEARCH/WORK EXPERIENCE

Graduate Student Researcher — University of California San Diego September 2024-Present

Associate Data Analyst — Technomics, Inc. January 2023-August 2024

- Develop and utilize data analysis/modeling tools to support program planning and operations research to help inform decision-making for the DOE/NNSA

- Prepare effective data products and reports to communicate progress and insights to stakeholders at all levels of the process

Research Intern — Space Telescope Science Institute October 2021-October 2022

Research intern working with Dr. Arpita Roy to:

- Developed and used machine learning models to analyze stellar spectra using extreme precision radial velocity (EPRV) measurements to detect exoplanets

- Trained models to predict stellar activity signals from spectral features and distinguish between stellar activity and small planetary signals to help improve the sensitivity of the RV method to Earth-sized exoplanets

- Analyzed stellar spectra for activity-correlated/sensitive features to identify informative inputs and calibrate predictions for model

- Performed data reduction/processing and analysis on various datasets, including both solar and stellar data from the high-precision spectrographs HARPS-N and NEID

- Attended weekly team meetings and communicated progress/results of research to both internal and external collaborators

Research Assistant — Georgetown University Department of Physics September 2019-August 2021

Research assistant to Professor Edward van Keuren, working on:

- The development, synthesis, and analysis of polymer nanoparticles for treating acute kidney injury
    - Assembled optical and scientific instrumentation for experiments to help determine properties of particles
    - Collected, processed, and analyzed data to characterize and improve synthesis of particles
    - Completed senior thesis on novel techniques for the analysis of the sedimentation of the particles in solution, presented to 30+ peers and professors

- The synthesis and analysis of the photoconductivity of organic charge transfer materials (PVK-TCNQ) for potential use as/in optoelectronic devices. Funded by DC Space Grant.

PUBLICATIONS

Jiang, S., Roy, A., Halverson, S., et al. "Revisiting ϵ Eridani with NEID: Identifying New Activity-Sensitive Lines in a Young K Dwarf Star," 2023, The Astronomical Journal, 167, 9, doi: 10.3847/1538-3881/ad0b0b

GRANTS, FELLOWSHIPS, & AWARDS

UCSD Astronomy & Astrophysics Graduate Student Travel Award (AAS 245)	Fall 2024
UCSD Graduate and Professional Student Association Travel Grant (AAS 245)	Fall 2024

COMMUNITY INVOLVEMENT

Member — EPRV Research Coordination Network   October 2022-Present

- Participate in periodic meetings to help coordinate EPRV research efforts across the community
- Provide input and perspective on relevant goals of the EPRV RCN

Member — American Physical Society (APS) — CUWiP Student Advisory Council   May 2021-June 2022

- Participated in bi-monthly meetings to help plan for the 2022 and 2023 APS Conferences for Undergraduate Women in Physics (CUWiP)
- Conducted various tasks to help increase engagement, assist with recruitment efforts, and provide feedback on structure and programming

Co-President — Georgetown University Astronomical Society   September 2019-May 2021

- Planned and ran weekly meetings, including conducting presentations on astronomical topics, and coordinated special events
- Helped maintain the Heyden Observatory, its telescopes, and other historical astronomical materials
- Conducted external outreach by reaching out to professionals in space science and astronomy and hosting speakers

Undergraduate Liaison — Georgetown University Women in Physics   January 2020-May 2021

- Helped plan and run monthly meetings and assisted with coordinating special events, including conducting external outreach to speakers and facilitating group/panel discussions
- Represented undergraduate interests in the organization while helping plan events and advocacy efforts

Member — Georgetown University Physicists Against Racism   July 2020-May 2021

Member — Georgetown University Society of Physics Students   September 2019-May 2021

TEACHING EXPERIENCE

Planet Finder Academy — California Institute of Technology   July 2022-May 2024

- Help coordinate and lead the Caltech Planet Finder Academy for high school students
- Create Jupyter notebooks, tutorials, and exercises to introduce students to fundamentals of coding and exoplanet science
- Assist with day-to-day planning and operations of program

Teaching Assistant — Georgetown University Department of Physics   September 2019-May 2021

Teaching assistant for PHYS 101: Principles of Physics I and PHYS 102: Principles of Physics II:

- Assisted with the setup/running of labs and helped students work through labs
- Held weekly office hours to assist students with homework/assignments and discuss concepts learned in class

SKILLS

Computing Skills	Python (TensorFlow/Keras), C++, Java, R, SQL, LaTeX, MATLAB, Wolfram Mathematica, Microsoft Office, Git
Languages	English, German

- Highly driven, organized, and efficient, with good multitasking and time management skills

- Extensive experience in scientific programming, data processing and analysis, and machine learning

- Strong background in scientific research and problem solving

- Adaptable, quick learner; comfortable in a dynamic environment

- Ability to work well in a team and/or independently

- Proficient in scientific writing and communication