Denise Yudovich

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GitHub Profile

Education

•University of Florida, Gainesville, FL (Honors Program) *June 2021 - May 2025*
Bachelor of Science - Astrophysics; Minor: English CGPA: 3.95

Research Experience

•Undergraduate Research Fellow (Stanford University) *June - August 2024*
Summer Research Early Identification Program (SR-EIP), Leadership Alliance Stanford, CA
Dr. Steven Allen and Dr. Adam Mantz

– Searched for radio-loud AGN in galaxy cluster *MACS J0242* at the Kavli Institute for Particle Astrophysics and Cosmology (KIPAC). Our work is part of the larger effort to understand contamination in the early universe so that we can use cluster SZ (Sunyaev Zel'dovich) detections to constrain cosmic evolution. **I am currently continuing this research and preparing a first-author manuscript to be submitted to the Astrophysical Journal**

•Undergraduate Research Fellow (University of Hawaii Manoa) *May - July 2023*
REU (Research Experiences for Undergraduates) at the Institute for Astronomy Manoa, HI
Dr. Xudong Sun and Dr. Kai Yang

– Successfully searched for late-phase complex stellar flares from F-, G-, K-, and M-Type stars using TESS (Transiting Exoplanet Survey Satellite) light curve data. We break down this flare morphology to further analyze the peak and bump profiles of such flares and their underlying physics. **Submitted a first-author paper on this work to the Astrophysical Journal.**

•Undergraduate Research Fellow (Dublin City University) *May - July 2022*
Intern at the Centre for Astrophysics and Relativity Dublin, Ireland
Dr. Turlough Downes and Dr. Maria Chernyakova

– Modeled and animated galaxies' magnetic and kinetic energy densities using VisIt. Also animated the pulsar PSR-B1259's orbit using Python and SAOImageDS9.

•Undergraduate Research Fellow (University of Florida) *January 2022 - Present*
Narayanan Group Gainesville, FL
Dr. Desika Narayanan

– Explored the effect of black hole growth on submillimeter galaxies. We use the software *Caesar* and *Powderday* to run simulations and analyze this relation.

Publications

- ***Analyzing the Morphology of Late-phase Stellar Flares from G-, K-, and M-type Stars:*** **Yudovich, D.**; Yang, K.; Sun, X. Submitted to The Astrophysical Journal.
- ***Radio-loud Active Galactic Nuclei (AGN) in MACS J0242:*** **Yudovich, D.**; Mantz, A.; Narayanan, D.; Allen, S. In preparation.
- ***The Importance of Neural Network Hyperparameters in Determining Age Inference Quality (2023):*** Tayar, J.; Claytor, Z.; et al. incl. **Yudovich, D.** Research Notes of the AAS, Volume 7, Issue 12, id.273. DOI 10.3847/2515-5172/ad16d3

Awards and Fellowships

- Graduate Student Mentorship Initiative (GSMI) Scholar - July 2024
- Stanford University: SR-EIP Fellow - June-August 2024
- Physics Undergraduate Women and Minorities at Stanford (PUWMAS) Scholar - May 2024
- William G. Nash Scholarship (College of Liberal Arts and Sciences, UF) - May 2024
- University of Hawaii Institute for Astronomy: REU Fellow - May-July 2023
- Phi Beta Kappa Honors Society Member - March 2023

- President's Honor Roll - Since Spring 2022
- CLAS (College for Liberal Arts and Sciences) Dean's List - Since Spring 2022
- The Claire Freireich Memorial Award for Excellence in Mathematics - 2021
- TOPSS Academic Achievement in Psychology Award - 2019

Presentations

- **Stanford University, KIPAC (August 2024):** Searching for Radio-loud AGN in Galaxy Clusters
- **The Leadership Alliance National Symposium, LANS (July 2024):** Searching for Radio-loud AGN in Galaxy Clusters
- **Stanford University, KIPAC (July 2024):** Analyzing the Morphology of Late-phase Stellar Flares from G, K, and M-type Stars.
- **American Astronomical Society, 243rd Meeting (Jan 2024):** Analyzing the Morphology of Late-phase Stellar Flares from G-type Stars
- **University of Florida, Undergraduate Research Symposium (Nov 2023):** Analyzing the Morphology of Late-phase Stellar Flares from G-type Stars
- **Rice University, GCURS (Golf Coast Undergraduate Research Symposium) (Oct 2023):** Analyzing the Morphology of Late-phase Stellar Flares from G-type Stars
- **University of Hawaii Manoa (July 2023):** Analyzing the Morphology of Late-phase Stellar Flares from G-type Stars

Involvement and Service

•UF Society of Women in Physics *January 2024 - Present*

Club Member

– Initiated community outreach programs that increase awareness of physics in the local community. Created an inclusive community of women in physics.

•UF Women in Astrophysics and Astronomy Mentorship Program *August 2023 - Present*

Mentor and Event Coordinator

– Mentored students pursuing Astrophysics degrees at the undergraduate level, guiding them through courses and research. Helped create an inclusive community of Astrophysics students, specifically women in Astrophysics.

•UF Society of Physics Students *August 2023 - Present*

Club Member

– Promoted physics through outreach events and helped create an inclusive community of physics students.

•Child Advocacy Center *December 2022 - Present*

Volunteer

– Supported and comforted abused, neglected, and trafficked children in preparation for therapy sessions. Assisted in the betterment of the center and managed donations to families in need.

•Astronomy and Astrophysics Society *August 2021 - Present*

Club Member

– Initiated community outreach programs that increase awareness of Astronomy in local education centers. Managed excursions to local observatories and space centers, encouraging a hands-on educative experience.

•Humane Society *October 2018 - Present*

Outreach Volunteer

– Established a community service project, Paws4Life, that promotes the adoption processes of hard-to-adopt animals at the Humane Society through fundraising and social media outreach. Currently creating an app in Java that facilitates adoptions by matching sheltered pets with potential owners.

Skills

Coding Languages: Python, Java, Bash, JavaScript, LaTeX
Web Dev Tools: Git, GitHub
Relevant Coursework: Astronomy and Astrophysics I & II, Galactic Astronomy, Introduction to Modern Physics, Introduction to Quantum Mechanics I, Mechanics I & II, Electromagnetism I& II, Thermal Physics, Observational Techniques of Astronomy I, Life in the Universe, Differential Equations, Python Programming for Astrophysics, Computational Linear Algebra.
Soft Skills: Problem Solving, Self-learning, Adaptability
Observing Experience: IRTF SpeX
Languages: English, Hebrew, and Spanish (Fluent); Latin (Intermediate); Greek (Beginner)