Yanbo Pan

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Education

Education		
University of Michigan Ann Arbor	, MI	August/2022 – May/2025
Bachelor of Science: Astronomy & A	strophysics (Honors), Interdisciplinary Physics, Statisti	ics
James B. Angell Scholar: GPA 4.0/4.	0	
Courses Highlights: Gala Astro Theo Involvements: Mrover, Student Astro	exies, Stars, Exoplanets, Computational Astrophysics, conomical Techniques, Methods in Theoretical Physics, Applied Regression, Computational Monomical Society, MUgSS, Transfer Connections	Modern Physics Aethods for Data Science
University of Wisconsin-Madison	Madison, WI	September/2021 - May/2022
Involvements: Greenhouse Learning	Community, Greater University Tutoring Drop-in, Bad	ger Acts of Kindness
Research		
Research Interests:		
Observational near-field cosmol Local group ultra-faint dwarf (U Hot Jupiter atmospheric charact Statistical and computational ap	ogy JFD) galaxies search and characterization erization and retrieval plications on Astrophysics	
Undergraduate Research, Astronor Research Assistant (Advisor: Ryan J.	ny Department University of Michigan, MI MacDonald)	January/2024 - Present
 Analyze the multidimensiona Measure the chemical compo Assess the transit light source 	l atmosphere of a Hot Jupiter, WASP-52b, using JWST sition, temperature, and cloud properties on each side o e effect of stellar features on the planet's transmission s	Cycle 2 data of the planet pectrum
Undergraduate Research, Astronor Dorrit Hoffleit Scholar (Advisor: Mar	ny Department Yale University, CT	May/2024 - August/2024
 Characterize two ultra-faint d Calculate ultra-faint dwarf ga Present research results at the 	warf galaxies using Keck DEIMOS spectroscopy data laxies' dynamical masses based on selected member state Yale Summer Research Symposium	ars
Undergraduate Research, Astronor Research Assistant (Advisor: Robert	ny Department UW-Madison, WI D. Mathieu)	June/2023 - June/2024
 Simulate binary stars' orbit to Design and test rejection and Present research iPoster at the 	analyze stellar populations within the WIYN Open Clu MCMC sampling to model stellar orbits, reducing obse e 244 th AAS conference	uster Survey erving demands
Undergraduate Research, Astronor Research Assistant (Advisor: Eric F.	ny Department University of Michigan, MI Bell)	January/2023 - May/2024

- Apply unsupervised machine learning techniques to search for potential ultra-faint dwarf galaxies
- Recover 10 M31 satellite galaxies in the DECam Local Volume Exploration Survey DR2 footprint
- Present research findings at the Astronomy department's annual undergraduate poster fair

Astronomy is for Everyone

Undergraduate mentor of the Student Astronomical Society (SAS) UFD interest group Undergraduate co-representative of the Astronomy Department's DEI committee Guest writer of the Astrobites Undergraduate Research Series Volunteer tutor @ the Greater University Tutoring Service (GUTS) Community speaker of the Chinese New Year Show @ the U-M Planetarium and Dome Theater Scientific blogger @ zhihu.com Active member of Badger Acts of Kindness Travel agent summer intern @ China CYTS Tours Holding Co., Ltd

Talks & Posters	
AAS 245	January/2025
Exploring the Chemical Recipes of a Hot Jupiter Behind the Shade of Spotty Starlight	
Yale Summer Research Symposium	July/2024
Riding Two Dark Horses: A Spectroscopic Study of Ultra-faint Milky Way Satellites	
ERES IX	July/2024
The Effect of Stellar Features on Atmospheric Retrievals of WASP-52b's Transmission Spectrun	n
AAS 244	June/2024
Modelling Binary Orbits in the WIYN Open Cluster Survey	
University of Michigan Undergraduate Research Fair	April/2024
Mining Ultra-Faint Galaxies in the Local Group: Are Missing Satellites All Found?	_
University of Michigan Physics 391 Research Talk	October/2023
The Missing Satellite Problem	
University of Michigan Student Astronomical Society Research Talk	September/2023
Modelling Binary Orbits in the WIYN Open Cluster Survey - The alternative evolutionary tracks	for binary stars.
University of Michigan Undergraduate Research Fair	April/2023
Uncovering Ultra-Faint Galaxies in the Local Group	

Astronomy Data Science Skills

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Proficient:	Python, R, Markdown, Jupyter		
Intermediate:	MySQL, MESA-web, Cloud Computing, Unix Shell, LaTex, WSL		
Basic:	C++, MATLAB, DS9		
Datasets:	DECam Local Volume Exploration Survey (DELVE)		
	WIYN Open Cluster Survey (WOCS)		
	JWST Transmission Spectra (NIRISS & NIRSpec)		
	Keck DEIMOS Spectra		
Packages:	pandas, numpy, matplotlib, seaborn, scikit-learn, scipy, sqlite3, emcee, pymultinest, pymc3 theJoker, POSEIDON, ezpadova, gala, fitsio, astropy, astroquery		

Honors & Awards

Dorrit Hoffleit Undergraduate Research Scholarship, Yale University	2024
ERES IX Conference Travel Funds, Cornell University	2024
James B. Angell Scholar, University of Michigan	2024
University Honors, University of Michigan	2022-2024
Dean's List, University of Wisconsin	2021-2022

Relevant Experience

Mrover | University of Michigan, MI Member of the Astrobiology Team

- Develop 5 quantitative chemical tests to analyze soil and rock samples for signs of extinct and extant life •
- Collaborate with the Instrumentation & Sample Handling team to make chemical tests work in real-time onboard • rover for the annual University Rover Challenge

The L.R. Ingersoll Physics Museum | UW-Madison, WI

Museum Docent

- Build detailed knowledge of Physics and locations to thoroughly answer guest questions •
- Clarify demonstrations, point out overlooked features, and offer further details about special exhibits
- Conduct lab-escape and held open-house events during the Wisconsin Science Festival •

The Jingrui Academy of Science | Ningbo, China

Part-time Tutor

- Craft study materials, handouts, and quizzes by surveying students' perceptions of past exams ٠
- Tutor one-on-one and group tutoring instruction for over 20 students focusing on academic skills •
- Advise IB students in grades 10 through 12, helping to develop math, physics, and economics knowledge

Miscellaneous

Languages: Mandarin Chinese, English, Wu Chinese Hobby: Distance Running, Swimming, Hiking, Table Tennis, Snow Watching, Elephant Chess

September/2022 - May/2023

September/2021 – April/2022

June/2021 - August/2022