Honey Htun

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Research Portfolio
GitHub
LinkedIn

Education

B.Sc in Physics with Astrophysics , Minor in Computer Science **Sep 2021 - May 2025**
New York University Abu Dhabi, Junior Spring Study Away at NYU New York

Current courses: Electricity and Magnetism, Capstone Project 1, Introduction to Detector Electronics
Senior Thesis: Appending Virial Star Formation Algorithms to NIHAO Cosmological Simulations

Work Experience

Research Projects

Clouds Spectra using Pyratbay **August 2024 - Current**
Center for Astrophysics and Space Science *NYU Abu Dhabi*

- PI : Dr. Jasmina Blecic

Appending Virial Star Formation Algorithms in NIHAO **Oct 2023 - Current**
Galaxy Formation Group *NYU Abu Dhabi*

- PIs : Dr. Andrea Maccio, Dr. Tobias Buck
- Running simulations of new star formation algorithms using virial parameter and developing post processing tools to analyze the simulations

ML methods on Fermi-LAT images **May 2024 - July 2024**
Istituto Nazionale di Fisica Nucleare *University of Perugia*

- PIs : Dr. Sara Cutini, Dr. Stefano Germani
- Used Machine Learning Algorithms to identify High Energy Gamma Ray Photon Clusters in time and space
- Cross-checked identified clusters in 4FHL and 3FGL sources to determine new clusters
- Performed likelihood Analyses Using Fermi Analysis tools

Finding Wolf-Rayet Candidates in Kes75 PWN region **May 2023 - May 2024**
Center for Astrophysics and Space Science *NYU Abu Dhabi*

- PI: Dr. Joseph Gelfand
- Queryed and analyzed the sources around KES75 PWN in the IR band using UKIDSS galactic plane survey to detect a Wolf-Rayet star
- Calculated the expected properties of the WR star from SED results
- Cross-matched and compared data across various multi-wavelength telescopes
- Performed statistical tests to determine the significance of the detection

Stellar Mass Prediction Tool **September 2022 - December 2023**
Galaxy Formation Group, Center for Astrophysics and Space Science *NYU Abu Dhabi*

- PI : Dr. Andrea Macciò
- Analyzed the Satellite Halo properties and deduce scaling relations between Hydrodynamical and Dark matter only Galaxy simulations
- Developed an algorithm to predict and assign Stellar Masses to low mass Dark Matter Satellites from using DMO simulations to save time and computational resources and make testing different dark matter models more efficient

Outreach and Teaching

Astronomy Student Interest Group **NYU Abu Dhabi**

- Co-founder & Head of Outreach

HLAB Summer School - Global Site Mentor **Gunma, Japan**

- Drafted a syllabus and taught an introductory seminar on Astrobiology and Exoplanets to Janpanese High School Students

Projects and Presentations

Planety **December 2022**

- Used C# and Unity to develop a VR game that lets you experience Martian environment and interact with objects on a Martian Lab

Poster Presentation **January 2024**

APS Conferences for Undergraduate Women in Physics

- Presented my research on Wolf-Rayet Candidates in the Kes75 region at APS CUWIP which took place at CUNY

Conference Presentation **April 2024**

American Physical Society April Meeting

- Presented my research on Stellar Mass Prediction algorithm of Low-Mass Dark Matter Satellites at the April Meeting 2024

Skills

Programming	Python, C ,C++, Git,C#, LaTeX, Matlab
Communication	English (bilingual), Burmese (native)
Other	Unity, Github, Microsoft Office, Art

Honors

- DOE-INFN Exchange Research Fellowship
- Undergraduate Summer Research Grant
- Travel Grants to Conferences
- Whole Country Second in National Matriculation Exam