OMAR M. ALJEBRIN

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EDUCATION

George Mason University, Honors College, Virginia   *January 2022 - Present*

Bachelors of Science in Physics, Minor in Astrophysics   GPA: 3.78

RESEARCH EXPERIENCE

Undergraduate Research Assistant, George Mason University

Advisor: Ferah Munshi   *Jan 2025 - Present*

Dark Matter: Studying how dark matter halo mass affects star formation by pinpointing the critical mass (Mcrit) using simulations.

Advisor: Jie Zhang   *May 2024 - Present*

Space Weather: Propose functions to fit position-versus-time data of a coronal mass ejection (CME) and determine the times of transition between its slow rise, impulsive, and propagation phases.

EXPERIENCE

NASA L'SPACE Mission Concept Academy   *Aug 2024 - Dec 2024*

Participant - Team Role: Chief Scientist

- Gained hands-on experience in space mission concept formulation, focusing on science goals, objectives, and success criteria, while following the NASA mission life cycle up to the Preliminary Design Review.

- Led and supported the development of science goals and payload selection, ensuring alignment of engineering design with scientific objectives and coordinating landing site research.

HONORS & AWARDS & SCHOLARSHIPS

Custodian of the Two Holy Mosques Scholarship Program   *Aug 2022 – Aug 2026*

Government-funded full-ride scholarship from Saudi Arabia, supporting future leaders in research, development, and innovation for national and global impact.

1st place poster in the COS URC Physical Sciences and Mathematics category   *May 2025*

Award Amount: 500$

The award honors top undergraduate research in Physical Sciences and Mathematics for excellence in quality, presentation, and impact.

3rd Place, GMU Calculus Olympiad (Team) *May 2024*

Dean's List *2023 – Present*

Cumulative GPA above 3.5

CONFERENCES & PRESENTATIONS

College of Science Undergraduate Research Colloquium *May 2025*

1. Title: How Low Can You Go? Investigating the Threshold Halo Mass for Star Formation
2. Title: Finding Piece-wise Kinematic Functions for the Full Evolution of Coronal Mass Ejections from the Sun

Honors Collage Exhibition *Dec 2024*

Title: Machine Learning and Superconductors: How can quantum machine learning improve the accuracy of predicting the critical temperature of superconductors?

AGU24, Co Author *Dec 2024*

Title: The Effect of Reference Map and Neighborhood Size on the Fractional Skill Score of Modeled Coronal Holes

SKILLS

Python

1 year of experience working with data analysis, simulation, and modeling. Packages: Numpy, Scipy, Pandas, Matplotlib.