Jasmine Treviño

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EDUCATION

Coastal Bend Community College

Associate of Science *May 2022*

Awards: Dean's List

Texas A&M University – Corpus Christi

Bachelor of Science in Atmospheric Science, Minor: Applied Mathematics *Exp: Dec 2026*

Awards and Activities: Rising Scholar Award | Ruth A Campbell Scholarship | LSAMP Scholar | McNair Scholar

SKILLS

Programming & Data: Python, R, MATLAB, HTML, CSS, MS Excel/Word/PowerPoint, AI/ML

Technical Skills: ArcGIS, 3D Printing, Linux/Windows System Administration

Soft Skills: Detail-Oriented, Strong Work Ethic, Time Management, Team Collaboration, Technical Communication, Report & Presentation Preparation

EXPERIENCE

KIII News Feb 2024 – April 2024

Broadcast Meteorologist Intern

- Generated 5+ daily forecast graphics using model guidance to ensure accurate reporting for the Coastal Bend.
- Drafted 20+ digital weather articles for the station website, translating complex scientific data into easy-to-read public updates.
- Successfully executed 15+ practice on-camera segments, receiving direct feedback from the Chief Meteorologist.

Texas A&M University – Corpus Christi June 2024 – Present

NASA IPMSI Research Assistant

- Analyzed 3 years of precipitation events, aligning Disdrometer rain rates with MRR-Pro reflectivity profiles.
- Trained 2 AI models (XGboost and Random Forest) to predict better rain rate estimations.
- Processed large-scale datasets using Python to model drop size distributions, evaluating variability in radar reflectivity
- Authored technical summaries and figures for monthly progress reports to support collaboration between TAMUCC faculty and NASA Global Precipitation Measurement (GPM) scientists.

Radiosonde Workshop June 2025 – June 2025

Participant

- Collaborated with a team to design and launch custom radiosondes equipped with 7 sensors.
- Programmed Raspberry Pi Pico microcontrollers to capture and transmit real-time atmospheric profiles.

PROJECTS

Z-R Relationships Inferred from Rain Drop Size Distributions in Different Types of Rain Systems over Gulf of Mexico Coast June 2024 - Dec 2024

- Analyzed Parsivel Disdrometer and Micro Rain Radar (MRR-Pro) data to examine how drop-size distributions affect radar reflectivity–rain rate (Z–R) relationships across Gulf Coast precipitation events.
- Presented research findings at the 105th American Meteorological Society (AMS) Annual Meeting in January 2025

Improving Micro Rain Radar Rain Rate Retrieval in Different Precipitation Regimes Using AI Methods

June 2025-Dec 2025

- Trained XGboost and Random Forest models by precipitation regime; validated against Disdrometer truth and outperformed raw MRR-Pro rain rate retrievals by up to 70%.
- Currently developing AI-based approaches to model drop size distribution from MRR-Pro observations to improve radar-derived rain rate accuracy across different precipitation regimes.