UND

Marwa Majdi

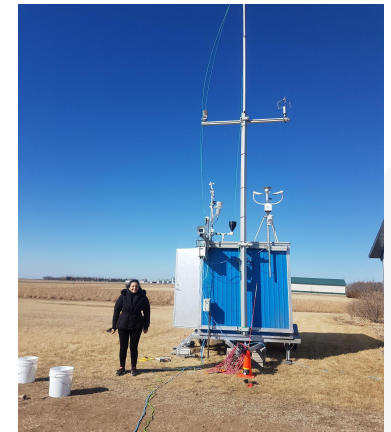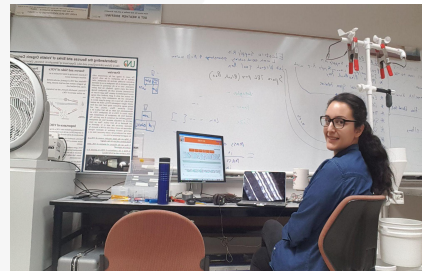**Assistant Research Professor in Atmospheric Sciences (UND)**
Focus/Research Interests: Atmospheric Aerosols, Fog & Cloud Microphysics, Regional Modeling, Weather Forecasting, Weather for Uncrewed Aircraft Systems, Machine Learning for Weather Prediction

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Current Projects

➔ **Turning cameras into smart sensors that estimate visibility and cloud ceiling in real time:** building a "Weather Camera Database" camera.atmos.und.edu and developing a machine-learning prototype.

➔ **Environmental guidance for UAS navigation**: provide high-resolution weather datasets and machine-learning decision tools that improve UAS navigation safety in low-visibility and complex environments.

➔ **ML tool for thunderstorm forecasts for North Dakota's hail-suppression operations.**

➔ **WRF forecast support, Western ND** for hail suppression operations (NDARB/NDCMP).

➔ **IMPACTS (NASA)**: better understand winter-storm microphysics, by analysing and processing ice crystal images collected from the probes.

Weather Cameras Database

About Weather Cameras Database

List of Cameras

Fog Events

Contact us

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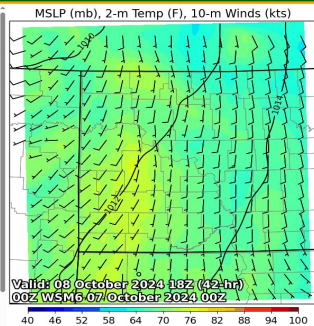
Ways you can start:

- **Data Analysis**: label the collected camera images, check camera feeds, or do some Python coding, computer vision and sensor setup.
- **Forecast Models and Analysis**: dig into real storm days or fog cases, compare model output with observations.
- **ML for Weather Forecasts** Help clean and organize datasets so ML models can learn from the best-quality information.

Interested? **Contact me**
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