About Me



NAME

Sahara Ali

TITLE

Assistant Professor – Data Science

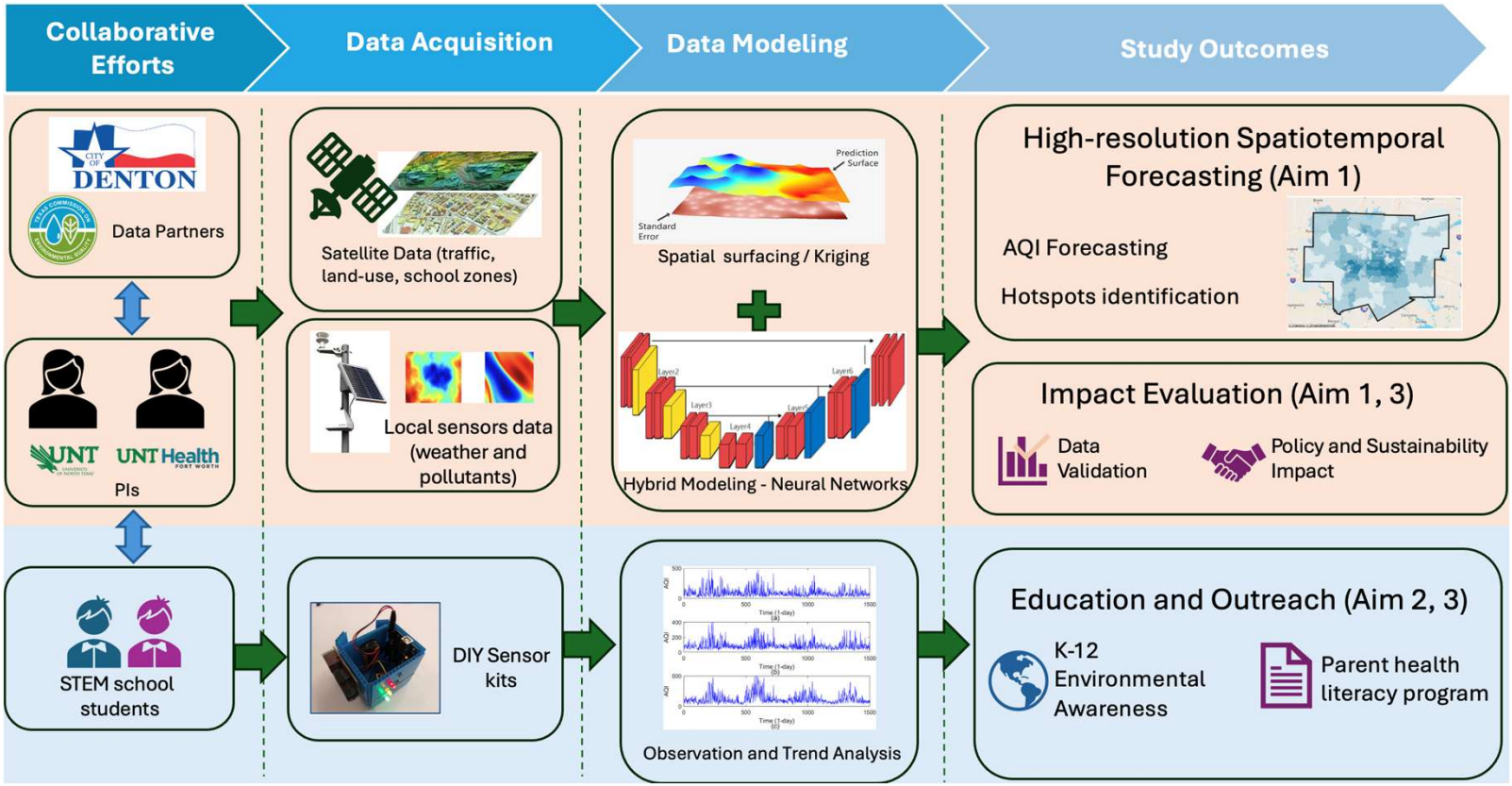
YEARS AT UNT

2 years

RESEARCH FOCUS AREAS

- **Geospatial Data Analysis**: Spatiotemporal Data Mining, Time-series Forecasting
- **Causal AI:** Time-series Causal Discovery, Spatiotemporal Causal Inference, Causal ML
- **Scientific Machine Learning:** Knowledge-guided Machine Learning, PINNs
- **Earth Informatics:** Air Quality Analysis, Polar Science, Environmental Data Science

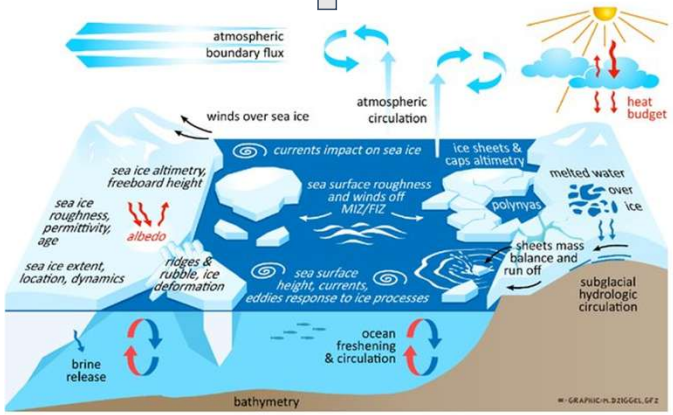
Air Quality Analysis



Polar Data Science

What is the cause / effect of ice-sheet melt? (Ali et al, ICMLA 2023)

How can I represent the complex dynamic interactions in data-driven way? (Ali et al, ECML 2024)



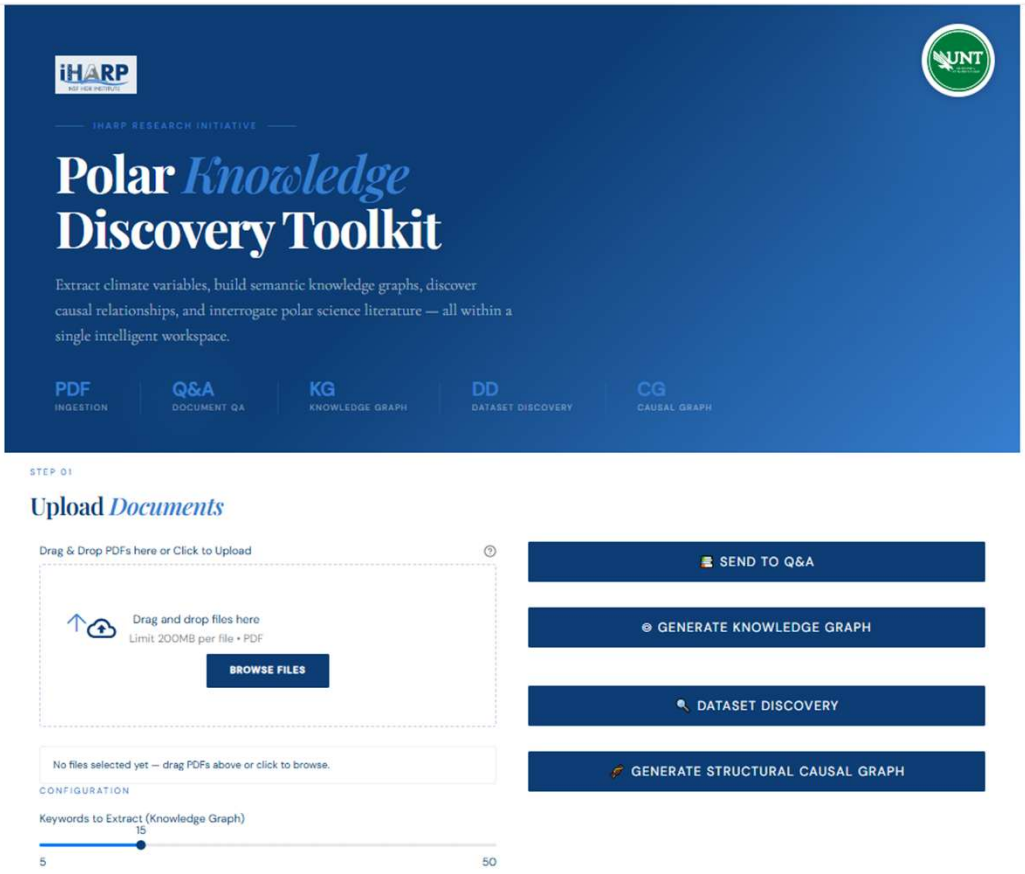
What are my regions of interest? (Ali et al, ICMLA 2024)

What datasets can help me in my task? (Ali et al, IEEE IGARSS 2022)

Do I look in the past or future of ice sheets? (Ali et al, IEEE BDCAT 2022)

How will I validate my findings? (Faruque et al, ICDMW 2025)

LLM Enhanced Scientific Knowledge Discovery



Publications:

1. Khawja Imran Masud, "LLM-based Causal Discovery from Scientific Literature", COI Summer Research Day, University of North Texas (UNT), 24 July, 2026. (PolDS @ ACM SIGSPATIAL 2026)

2. Dugyala, A. K., Varanasi, H., & Ali, S. (2025, November). LLM-Enhanced Knowledge Discovery for Polar Data Science. In Proceedings of the 1st ACM SIGSPATIAL International Workshop on Polar Data Science (pp. 1-4).

3. Gowtham Vuppaladhadiam, "Dataset Discovery and Knowledge Graph Expansion from Scientific Literature", COI Summer Research Day, University of North Texas (UNT), 24 July, 2026.