

CONNOR DIMARCO, PhD

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EDUCATION

University of Michigan

Ph.D., Space Sciences and Engineering

2026

M.S., Space Sciences and Engineering

2024

B.S.E., Aerospace Engineering

2022

EXPERIENCE

Organization of Recovery & Crisis Advisors

2026 – Present

Technical Consultant

- Develop and maintain all of the organization's backend systems and infrastructure.
- Build and maintain software-based tooling that automates the client's books and reporting workflows, replacing manual spreadsheet processes.
- Serve as sole technical contact: translate operational needs into durable software.

University of Michigan

Research Fellow

2026 – Present

- Continuing research on magnetospheric dynamics and solar wind data products with Tuija Pulkkinen.

Doctoral Researcher

2022 – 2026

- Led 4-year thesis program synthesizing multi-satellite observations, global ground-magnetometer networks, and global magnetohydrodynamic storm simulations to investigate periodic geomagnetic storm dynamics.
- Authored 4 first-author publications advancing understanding of the ~3-hour loading-unloading cycle that governs energy transfer through Earth's magnetosphere.
- Served as Graduate Student Instructor for SPACE 574: Introduction to Space Physics, a graduate-level course; led instruction, developed problem sets, and advised students on course material.
- Designed MIDL, an end-to-end product fusing 21 years of observations from three NASA/NOAA spacecraft; raised usable plasma-data coverage from 70% to >95% and eliminated propagation artifacts in the legacy dataset feeding NOAA's operational space-weather model. [<https://csem.engin.umich.edu/MIDL>]

Charles River Analytics

2024 – Present

Research Contractor

- Author the scientific narrative and instructional material for an immersive VR training application used by the U.S. Space Force, translating complex magnetospheric physics into guided exploration.
- Process Space Weather Modeling Framework simulation output into the 3D meshes and volumetric renders that populate the VR environment.

Los Alamos National Laboratory

2023 – 2026

Graduate Research Collaborator

- Won competitive research grant from the LANL Center for Space and Earth Science to partner with LANL staff scientists on ongoing magnetospheric research.
- Secured access to proprietary LANL satellite datasets and integrated them with public archives, enabling comparative analyses cited across two first-author publications.

SKILLS & INTERESTS

Technical: Python (NumPy, pandas, xarray), MATLAB, C++, Fortran, relational databases, Spark, Git; MHD modeling (BATSRUS/SWMF), solar wind data integration, HPC/MPI computing, SPICE, time-series analysis, machine learning, data pipelines; full-stack web infrastructure, web design, agentic coding, Linux/Bash/SSH; embedded prototyping (I²C/SPI, microcontrollers, CATIA, 3D printing, laser cutting).

Interests: Pursuing FAA Private Pilot License; 4-year weekly DJ residency (1,300+ hours paid, live performance).