Mike **Coughlan**

Ph.D. Candidate - Research Assistant

Personal

Mike Coughlan
Nationality: USA
Age: 33

Core Competencies

Python • Machine Learning • Space Physics • Data Analysis • Public Speaking

Technical Proficiencies

Pytorch • Keras • Tensorflow • Scikit-Learn • Data Preparation • Exploratory Data Analysis • ROOT • COMSOL Multiphysics • MacOS • Linux • Slurm Linux Queuing System • GEANT4 Simulation Software

Skills

Word • Excel • Powerpoint • Delegation • Project Management • Customer Service

Languages

English Fluent
Spanish Beginner

mike-k-coughlan
mikecoughlan

About Me

Physics Ph.D. Candidate with over five years of hands-on experience harnessing large datasets to develop interpretable machine learning models for data-driven discoveries. Known for my collaborative spirit and ability to thrive in multi-disciplinary settings, I am motivated by the prospect of applying my analytical skills within dynamic team environments. Currently seeking opportunities in research or data science roles where I can leverage my expertise to contribute meaningfully to innovative projects.

Recent Experience

2019–present

Research Assistant
PH.D. CANDIDATE · University of New Hampshire

- Performed analysis on large time-series datasets and prepared them for input into machine learning models.
- Designed machine leaning models for predicting space weather phenomena and their impacts.
- Developed workflows for machine learning model interpretation.
- Presented research results in group settings, at scientific conferences, and public lectures.
- Authored peer reviewed papers submitted for publication.
- Mentored junior students as they were learning how to program machine learning models and present their results.

2022

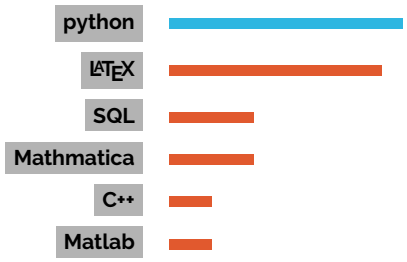
Data Science for Social Good
FELLOW · University of Warwick/Alan Turing Institute

- Teamed with public and private partners to target retrofit areas using advanced machine learning techniques.
- Developed a methodology comparing current electricity network capacity with projected demand, identifying upgrade needs for large scale instillation of electric heat pumps and solar panels.
- Collaborated effectively within a team environment, working closely with fellow data scientists, policymakers, and stakeholders to achieve project objectives and deliver impactful solutions.

Publications

2023 *Probabilistic forecasting of ground magnetic perturbation spikes at mid-latitude stations.*, Space Weather.
2022 *Revisiting the Ground Magnetic Field Perturbations Challenge: A Machine Learning Perspective*, Front. Astron. Space Sci.
2020 *Comparison of Deep Learning Techniques to Model Connections Between Solar Wind and Ground Magnetic Perturbations.*, Front. Astron. Space Sci.

Programming



Education

University of New Hampshire Durham, NH — 2018–present
Ph.D. Candidate in Physics and Astronomy, Advisor: Dr. Amy Keesee
M.S. Physics and Astronomy

Temple University Philadelphia, PA — 2014–2017
B.S. Physics

West Chester University of Pennsylvania West Chester, PA — 2009–2013
B.A. Political Science; B.A. Communications

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