JAMIN RADER

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jaminrader.com

PROFILE

Creative problem-solver with a strong background in climate, pattern detection, interpretable AI, and statistics. I develop trustworthy predictive models by identifying the optimal tools for the job and understanding how they arrive at their predictions. I bring curiosity, enthusiasm, collaboration, and a talent for translating complex ideas to every team.

Skills: Climate Data Analysis | Machine Learning | Interpretable AI | Data Visualization | Technical Writing
Tools: Python | Tensorflow/PyTorch | NetCDF | Adobe Creative Suite | Visual Studio Code | Git | Google Colab

EDUCATION

2024 **Ph.D. Atmospheric Science** Colorado State University, Fort Collins, CO, USA
Dissertation: "Bridging human and artificial intelligence for skillful, trustworthy, and insightful seasonal- to-decadal climate prediction."

2021 **M.S. Atmospheric Science** Colorado State University, Fort Collins, CO, USA
Thesis: "Detecting Forced Change in Combined Climate Fields using Explainable Neural Networks."

2019 **B.S. Atmospheric Sciences** (Hons) University of Washington, Seattle, WA, USA
Thesis: "Characteristics of clouds and precipitation on the lee side of the Olympic Mountains."

EXPERIENCE

2019-2024 **Graduate Research Assistant** Colorado State University

2019-2023 **Computational Science Graduate Fellow** U. S. Department of Energy

2019-2021 **Walter Scott College of Engineering Fellow** Colorado State University

2017-2019 **SOARS Intern** University Corporation for Atmos. Research / CU Boulder

ACTIVITIES & SERVICE

DEI Leadership American Meteorological Society BRAID Accessibility Committee (2023-2024), CIRA/Atmospheric Science Mentoring Program (2023-2024)

Reviewer International Conference on Learning Representations, Journal of Advances in Modeling Earth Systems, Machine Learning: Earth, Marine Geodesy, Artificial Intelligence for the Earth Systems, Geophysical Research Letters

Para-Ice Hockey Seattle Adaptive Sports, Colorado Sled Hockey, Organizer of 1st Annual Rocky Mountain Mayhem

Scholastic Outreach Meadows Elementary, Olander Elementary, Seattle Mariners KOMO News Weather Day, CSU Little Shop of Physics, Mountain View Elementary, Seven Oaks Elementary, Sylvester Middle, Nisqually Middle

AWARDS

Fellowships DOE Computational Science Graduate Fellowship (2019), CSU Walter Scott College of Engineering Fellowship (2019), American Meteorological Society Gradute Fellowship (2019, declined)

Presentations 1st Place American Meterological Society Conference on Probability and Statistics (2024), 3rd Place AMS Conference on Probability and Statistics (2022), Outstanding Oral Presentation AMS Conference on Climate Variability and Change (2019)

Leadership Phil Church Award - UW Atmospheric Sciences award for graduate with most outstanding record of scholarship, leadership and service (2019), Josh Nikalson Fire & Soul Award - Seattle Adaptive Sports (2017)

PUBLICATIONS

Rader, J.K., C.J. Connolly, M.A. Fernandez, and E.M. Gordon, 2025. "Attribution of the record-high 2023 SST using a deep-learning framework." *Environmental Research Communications*. https://doi.org/10.1088/2515-7620/add322

Olivarez, H.C., N.S, Lovenduski, E. Maroon, J.D. Müller, A.R. Fay, K.M. Krumhardt, M.N. Levy, K. Lindsay, G.A. McKinley, and **J.K. Rader**, 2025. "Internal climate variability modulates decadal changes in ocean anthropogenic carbon storage." *Environmental Research Letters*. https://doi.org/10.1088/1748-9326/ada2ad

Rader, J.K., and E.A. Barnes, 2023. "Optimizing Seasonal-To-Decadal Analog Forecasts With a Learned Spatially-Weighted Mask." *Geophysical Research Letters*. https://doi.org/10.1029/2023GL104983

Rader, J.K., E.A. Barnes, I. Ebert-Uphoff, and C.W. Anderson, 2022. Detection of forced change within combined climate fields using explainable neural networks. *Journal of Advances in Modeling Earth Systems*. https://doi.org/10.1029/2021MS002941

Barnes, E.A., R.J. Barnes, Z.K. Martin, and **J.K. Rader**, 2022. This Looks Like That There: Interpretable neural networks for image tasks where location matters. *Artificial Intelligence for the Earth Systems*. https://doi.org/10.1002/essoar.10509984.2

REFERENCES

Available upon Request