David Millard

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RELEVANT EXPERIENCE

External Researcher June 2024 – June 2026
Environment and Climate Change Canada Remote

- Develop probabilistic ML methods for ensemble weather forecasting with function-space uncertainty modeling
- Develop ML-accelerated numerical weather prediction solvers integrating data-driven and PDE-based methods
- Co-authored **5 publications** in scientific ML for atmospheric modeling and uncertainty quantification

Research Scholar Aug. 2025 – Nov. 2025
University West Trollhättan, Sweden

- Collaborated with industry to solve engineering challenges in safety-critical systems under uncertainty
- Developed a federated neural control framework with distributional modeling for robustness and safety
- Presented results to the **NSF** and industry stakeholders, supporting applied validation and transfer
- Co-authored **1 publication** on federated learning and control under uncertainty

Research Scholar May 2024 – May 2025
Lehigh University Bethlehem, PA, USA

- Conducted research at the intersection of ML and numerical analysis for PDE-based systems
- Analyzed NWP algorithms via numerical analysis, focusing on stability, error, and efficiency
- Developed data-driven methods to accelerate solvers in high-dimensional dynamical systems
- Co-authored **4 publications** in scientific ML and computational modeling

Software Engineer Aug. 2022 – July 2023
Alpine Software Mendon, NY, USA

- Maintained production systems using SQL, Delphi, and C# in a legacy enterprise codebase
- Built scalable data pipelines for preprocessing and efficient I/O operations
- Integrated Microsoft Azure storage with distributed processing via Apache Spark

HIGHLIGHTED RESEARCH

Split Conformal Prediction in the Function Space via Neural Operator Learning ICLR, 2026
Federated Distributional Reinforcement Learning with Distributional Critic Regularization CDC, 2026
Can Optimal Transport Improve Federated Inverse Reinforcement Learning? PMLR, 2026

EDUCATION

University of Rochester May 2026 – Present
Doctorate of Philosophy in Electrical and Computer Engineering, ***Advisor****: Mark Bocko* Rochester, NY, USA

Rochester Institute of Technology June 2025 – May 2026
Masters of Mechanical Engineering Rochester, NY, USA

Rochester Institute of Technology Aug. 2020 – May 2025
Dual Bachelors of Science in Computer Science and Statistics Rochester, NY, USA

SKILLS

Languages: Python, Julia, MATLAB, C, Assembly, FORTRAN, R, C++
Simulation: Ansys Fluent, SolidWorks, Ansys SpaceClaim
Tools: GitHub, Notion, Jira, Trello
Stacks: PyTorch, JAX, LangChain, Qiskit