

ORGANIZATION ROLE

Research Scientist – Flood Risk

PROJECT ROLE / FOCUS AREAS

Probabilistic Modeling

Hydrology

Spatial Analysis

Deep Learning & AI

Extreme Value Analysis

EDUCATION

PhD Civil Engineering – Water Resources, Clemson University, 2026

MS Civil Engineering – Water Resources Engineering and Management, Amirkabir University of Technology, 2019

BS Civil Engineering, Iran University of Science and Technology, 2016

MOSTAFA SABERIAN PH.D.

Research Scientist – Flood Risk

Mostafa Saberian, Flood Risk Research Scientist at The Water Institute, supports the development of probabilistic, physics-based, data-informed frameworks to support current and future flood hazard quantification. He also conducts frontier research and development in flood and disaster intelligence.

Mostafa brings extensive experience in hydroinformatics, flood modeling, neural network modeling, and deep learning to the Institute. His past research spans deep neural networks for flood predictions, deep learning-based pluvial flood mapping, deep neural networks for probabilistic flood prediction, and cellular automata application for optimization of cascade water reservoirs. He is the recipient of numerous research fellowship grants and the author of several publications at the intersection of hydrology, deep learning, and AI.

He earned his Ph.D. in Civil Engineering with a concentration in Water Resources from Clemson University, his master's in civil engineering from Amirkabir University of Technology, and bachelor's in civil engineering from Iran University of Science and Technology. In addition to his research experience, Mostafa brings proficiency in numerous programming languages, deep learning frameworks, machine learning platforms, and geospatial tools to the Institute.

PROFESSIONAL EXPERIENCE

2026-Present: Research Scientist – Flood Risk, The Water Institute

2023-2026: Graduate Research Assistant, Glenn Department of Civil Engineering, Clemson University

2025: Water Prediction Innovators Summer Institute Fellow, University of Alabama

2024: Visiting PhD Fellow, Hydroinformatics Department, IHE Delft Institute for Water Education

2016-2019: Graduate Research Assistant, Department of Civil and Environmental Engineering, Amirkabir University of Technology

SELECTED PUBLICATIONS

1. Saberian, M., Samadi, V., & Popescu, I. (2026). Probabilistic hierarchical interpolation and interpretable neural network configurations for flood prediction. Hydrology and Earth System Sciences, 30(2), 371 399. https://doi.org/10.5194/hess-30-371-2026
2. Saberian, M., Zafarmomen, N., Neupane, A., Panthi, K., & Samadi, V. (2025). HydroQuantum: A new quantum-driven Python package for hydrological simulation. Environmental Modelling & Software, 195, 106736. https://doi.org/10.1016/j.envsoft.2025.106736
3. Samadi, V., Fowler, H., Lammond, J., Wagener, T., Brunner, M., Gourley, J., Moradkhani, H., Popescu, I., Wasko, C., Wright, D., Wu, H., Zhang, K., Arias, P., Duan, Q., Nazemi, A., van Oevelen, P., Perin, A., Roundy, J., Saberian, M., & Umutoni, L. (2025). The Needs, Challenges, and Priorities for Advancing Global Flood Research. Wiley Interdisciplinary Reviews: Water, 12(3), Article e70026. https://doi.org/10.1002/wat2.70026
4. Saberian, M., Mousavi, S. J., Karray, F., & Ponnambalam, K. (2019). Cellular Automata-Based Optimization of Cascade Hydropower Systems Operations. 2019 IEEE 2nd International Conference on Renewable Energy and Power Engineering, Toronto, Canada. https://doi.org/10.1109/REPE48501.2019.9025144