

## Contact

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## Top Skills

Weather Forecasting  
Modeling and Simulation  
Hydrologic Modeling

## Languages

Arabic (Elementary)  
Persian (Native or Bilingual)  
Turkish (Professional Working)  
English (Professional Working)  
Azerbaijani (Native or Bilingual)

# Afshin Shafei, Ph.D.

Research Fellow @ Sapienza Università di Roma | PhD in Environmental Engineering  
Rome, Lazio, Italy

## Summary

I am an Environmental Engineer and Ph.D. Researcher specialized in developing next-generation Early-Warning Systems for extreme climate conditions. Currently a Research Fellow at Sapienza Università di Roma, my work focuses on integrating data-driven approaches, specifically Machine Learning and Deep Learning, to enhance climate downscaling and flood risk management.

Beyond academia, I serve as a Technical Adviser (AI & Emerging Technologies) for AquaNRG. In this role, I bridge the gap between technical innovation and business strategy, guiding executive teams on AI integration for the energy sector, including CCUS, hydrogen, and geothermal markets. I specialize in translating complex data into actionable insights for operational efficiency and risk assessment.

With a strong foundation in Python, Cloud Computing (GCP), and Hydrologic Modeling, I am passionate about leveraging technology to solve critical environmental challenges.

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## Experience

Sapienza Università di Roma  
Research Fellow  
January 2025 - Present (1 year 1 month)  
Rome, Lazio, Italy

AquaNRG: Environmental and Energy Tech Company  
Technical Adviser (AI & Emerging Technologies)  
January 2017 - Present (9 years 1 month)

Expert Guidance to CEO and Executive Team: Provide expert guidance to the CEO and executive team on AI, machine learning, and emerging technologies shaping the energy and environmental sectors. Advise on data-driven decision-making for business strategy, operations, and technology investments. Identify market opportunities for AI-driven solutions in oil and gas,

CCUS (carbon capture, utilization, and storage), hydrogen, and geothermal energy.

**Technology Trends & Competitive Intelligence:** Continuously monitor and assess breakthroughs in AI, geospatial analytics, and energy transition technologies. Evaluate the impact of AI-driven automation, digital twin technology, and predictive analytics on AquaNRG's core business areas. Provide insights on competitor strategies and emerging disruptors in the energy and environmental technology space.

**AI & Data Analytics Implementation:** Guide the development and integration of AI models to enhance subsurface analytics, risk assessments, and operational efficiency. Advise on AI applications for predictive maintenance, geologic storage optimization, and carbon credit modeling. Ensure scalability, accuracy, and regulatory compliance in AI-driven solutions.

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## Education

Sapienza Università di Roma

Doctor of Philosophy - PhD, Environmental and Hydraulic Engineering · (January 2022 - December 2025)

Università di Bologna

Master of Science - MS, Environmental Engineering Technology/  
Environmental Technology · (2018 - 2021)

Istanbul Technical University

· (2016 - 2018)