Hamed Alemohammad

halemohammad@clarku.edu | hamedalemo.github.io | 508-849-2349

APPOINTMENTS

Clark University

Associate Professor, Graduate School of Geography	Jan. 2023 – present
Director, Clark Center for Geospatial Analytics	Jan. 2023 – present

Radiant Earth Foundation

Executive Director	Sep. 2020 – Oct. 2022
Chief Data Scientist	May 2019 – Oct. 2022
Senior Geospatial Data Scientist	Sep. 2017 – Apr. 2019

Columbia University

Postdoctoral Research Scientist	Aug. 2016 - Aug. 2017

Massachusetts Institute of Technology

Postdoctoral Research Associate	Sep. 2014 - Aug. 2016

UNESCO Regional Center on Urban Water Management

Assistant Program Specialist	Oct. 2006 - Mar. 2009

EDUCATION

Ph.D., Civil and Environmental Engineering, Massachusetts Institute of Technology (MIT)	2014
M.Sc., Water Resources Engineering, Sharif University of Technology	2009
B.Sc., Civil Engineering, Sharif University of Technology	2007

ADVISORY ROLES AND BOARD MEMBERSHIPS

- Member of Technical Advisory Committee, Digital Earth Africa, 2025-
- Member of Steering Committee, Geo-Bench 2020-2022, 2024-
- Member of Board of Directors, Radiant Earth, 2020-2024
- Member of Department of Energy, Biological and Environmental Research Advisory Committee (BERAC), Subcommittee on Unified Data, 2023
- Member of GEO Expert Advisory Group on Global Earth Observation System of Systems (GEOSS), 2022
- Member of Industrial Advisory Board, NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES), 2021-2022
- Technical Advisor, Influunt, 2021-2022
- Member of Technical Advisory Group, Enabling Crop Analytics At Scale (ECAAS), initiative of the Bill & Melinda Gates Foundation, 2020-2022
- Member of Agriculture Technical Advisory Panel, Lacuna Fund, 2020-2022
- Member, NASA ESDS Working Group on Machine Learning Capacity Development, 2020-2022
- Technical Advisor, Earthlab AI, 2020-2021
- Member, AGU Remote Sensing Technical Committee, 2017-present
- Member, AGU's *Eos.org* Advisory Panel, 2014-2016

GRANTS

PI (TOTAL ~$3.1M)

- Development of GIS/Remote Sensing Curriculum Modules for Higher Education, *Esri*, $50,000 (2025)
- Elaboration of the National Strategy 30×30 Plan for DRC, *Wildlife Conservation Society,* $63,000 (2025)
- Projecting Future Land Cover Change using GenAI, *Taylor Geospatial Institute and AWS*, $100,000 (2024)
- HLS GeoFM Benchmark for Aquaculture and Wetlands, *NASA*, $247,425.00 (2024)
- Evaluating Performance of a Foundation Model for Optical Earth Observation on Downstream Tasks, *NASA IMPACT*, $150,360 (2023)
- AgriFieldNet: Benchmark Training Data and Model for Smallholder Agricultural Field Boundary and Crop Type Detection, *Enabling Crop Analytics at Scale (ECAAS) AGData Acceleration Facility an initiative of Bill & Melinda Gates Foundation*, $234,000 (2021)

- Advancing an Open-Access Repository for Earth Observation Training Data and Machine Learning Models, *NASA ACCESS 2019*, $1,640,000 (2020)
- An Innovative Agricultural Ground Data Collection and Exchange Ecosystem, *Grand Challenges an initiative of Bill & Melinda Gates Foundation*, $100,000 (2020)
- Expanding a Collaborative Community of Practice for Advancing Geospatial Machine Learning Applications in Africa, *GIZ FAIR Forward*, $135,000 (2020)
- Generating Synthetic Agricultural Ground Reference Data from Satellite Observations, *Grand Challenges an initiative of Bill & Melinda Gates Foundation*, $200,000 (2019)
- An Expert Workshop on Advancing Application of Machine Learning Tools for NASA's Earth Observation Data, *NASA ROSES-2019*, $166,000 (2019)

CO-I (TOTAL ~$1.8M)

- Country-Scale Field Boundary Mapping Using Advanced AI Models Applied to Multi-Source High-Resolution Satellite Imagery, *NASA CESRA,* $349,718 (2025)
- Radiant Earth Foundation Core Funding to Impact Global Development with Artificial Intelligence and Earth Observations, *Omidyar Network,* $1,000,000 (2019)
- Generating a Training Library for Land Cover Classification to Advance Global Development and Humanitarian Response, *Schmidt Futures,* $383,000 (2018)
- Creating a Machine Learning Image Library of African Crops, *McGovern Foundation*, $100,000 (2018)

PRE-PRINT PUBLICATIONS

1. Tulbure M.G., Caineta J., Broich M., Gaines M.D., Rufin P., Thomas L.F., **Alemohammad H.,** Hemmerling J., Hostert P. (2025) Leveraging AI multimodal geospatial foundation models for improved near-real-time flood mapping at a global scale. *(arXiv: 2512.02055).* https://arxiv.org/abs/2512.02055
2. Simumba N., Lehmann N., Fraccaro P., **Alemohammad H.,** De Mel G., Khan S., Maskey M., Longepe N., Zhu X.X., Kerner H., Bernabe-Moreno J., Lacoste A. (2025) GEO-Bench-2: From Performance to Capability, Rethinking Evaluation in Geospatial AI, *(arXiv: 2511.15658).* https://doi.org/10.48550/arXiv.2511.15658
3. Jakubik J., Roy S., Phillips C. E., Fraccaro P., Godwin D., Zadrozny B., Szwarcman D., Gomes C., Nyirjesy G., Edwards B., Kimura D., Simumba N., Chu L., Mukkavilli S. K., Lambhate D., Das K., Bangalore R., Oliveira D., Muszynski M., Ankur M., Ramasubramanian M., Gurung I., Khallaghi S., Li H., Cecil M., Ahmadi M., Kordi F., **Alemohammad H.,** Maskey M., Ganti R., Weldemariam K., Ramachandran, R. (2023) Foundation Models for Generalist Geospatial Artificial Intelligence *(arXiv:2310.18660).* https://doi.org/10.48550/arXiv.2310.18660

JOURNAL PUBLICATIONS

1. Szwarcman D., Roy S., Fraccaro P., Gíslason Þ.E., Blumenstiel B., Ghosal R., de Oliveira P.H., de Sousa Almeida J.L., Sedona R., Kang Y., Chakraborty S., Wang S., Kumar A., Truong M., Godwin D., Lee H., Hsu C-Y, and Akbari Asanjan A., Mujeci B., Keenan T., Arevalo P., Li W., **Alemohammad H.,** Olofsson P., Hain C., Kennedy R., Zadrozny B., Cavallaro G., Watson C., Maskey M., Ramachandran R., Moreno J.B. (2025) Prithvi-EO-2.0: A Versatile Multi-Temporal Foundation Model for Earth Observation Applications, *IEEE Transactions on Geoscience and Remote Sensing (in publication)*.
2. Longépé N., **Alemohammad H.**, Anghelea A., Brunschwiler T., Camps-Valls G., Cavallaro G., Chanussot J., Delgado J.M., Demir B., Dionelis N., Fraccaro P., Jungbluth A., Kennedy R.E., Marsocci V., Ramasubramanian M., Ramos-Pollan R., Roy S., Sümbül G., Tuia D., Zhu X.X., Ramachandran R. (2025) Earth Action in Transition: Highlights from the 2025 ESA–NASA International Workshop on AI Foundation Models for EO, *IEEE Geoscience and Remote Sensing Magazine,* 13(4), 457-462.
3. Tadesse G.A., Robinson C., Mwangi C., Maina E., Nyakundi J., Marotti L., Hacheme G.Q., **Alemohammad H.,** Dodhia R., Lavista Ferres J.M., (2025) Enhancing Food Security with High-Quality Land-Use and Land-Cover Maps: A Local Model Approach, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing,* 18, 15265-15277.
4. Hashemi M.G.Z., **Alemohammad H.,** Jalilvand E., Tan P.N., Judge J., Cosh M., Das N.N. (2025) Estimating Crop Biophysical Parameters from Satellite-based SAR and Optical Observations using Self-Supervised Learning with Geospatial Foundation Models, *Remote Sensing of Environment*, 327, 114825.
5. Fluhrer A., **Alemohammad H.,** Jagdhuber T (2025) Analyzing the dihedral scattering component of P-band SAR signals for trunk permittivity estimation – a concept study, *Science of Remote Sensing,* 11, 100236.
6. Paul S., **Alemohammad H.** (2025) Examining the Performance of Precipitation Products in Replicating Indian Summer Monsoon Rainfall (ISMR) using Triple Collocation, *Journal of Hydrology,* 657, 133136.

7. Khallaghi S., Abedi R., Ali H. A., **Alemohammad H.,** Asipunu M. D., Alatise I., Ha N., Luo B., Mai C., Song L., Wussah A., Xiong S., Yao Y.-T., Zhang Q., Estes L. D. (2025) Generalization Enhancement Strategies to Enable Cross-year Cropland Mapping with Convolutional Neural Networks Trained Using Historical Samples, *Remote Sensing*, 17(3), 474.
8. Hashemi M.G.Z., Jalilvand E., **Alemohammad H.,** Tan P.N., Das N.N. (2024) A Systematic Review of Synthetic Aperture Radar and Deep Learning in Agricultural Applications*, ISPRS Journal of Photogrammetry and Remote Sensing,* 218(A), 20-49.
9. Hashemi M.G.Z., Tan P.N., Jalilvand E., Wilke B., **Alemohammad H.,** Das N.N. (2024) Yield Estimation from SAR Data Using Patch-Based Deep Learning and Machine Learning Techniques, *Computers and Electronics in Agriculture*, 226, 109340.
10. Fluhrer A., Jagdhuber T., Montzka C., Schumacher M., **Alemohammad H.,** Tabatabaeenejad A., Kunstmann H., Entekhabi D. (2024), Soil Moisture Profile Estimation by Combining P-band SAR Polarimetry with Hydrological and Multi-Layer Scattering Models, *Remote Sensing of Environment,* 305, 114067.
11. Gurung I., Ramasubhramanian M., Freitag B., Kaulfus A., Maskey M., Ramachandran R., **Alemohammad H.** (2023), Tropical cyclone wind speed estimation: A large scale training data set and community benchmarking. *Earth and Space Science*, 10, e2022EA002693.
12. Fluhrer A, Jagdhuber T, Tabatabaeenejad A, **Alemohammad H**, Montzka C, Friedl P, Forootan E, Kunstmann H. (2022), Remote Sensing of Complex Permittivity and Penetration Depth of Soils Using P-Band SAR Polarimetry. *Remote Sensing,*14(12):2755.
13. Tottrup C., Druce D., Meyer R.P., Christensen M., Riffler M., Dulleck B., Rastner P., Jupova K., Sokoup T., Haag A., Cordeiro M.C.R., Martinez J.-M., Franke J., Schwarz M., Vanthof V., Liu S., Zhou H., Marzi D., Rudiyanto R., Thompson M., Hiestermann J., **Alemohammad H.,** et al. (2022) Surface Water Dynamics from Space: A Round Robin Intercomparison of Using Optical and SAR High-Resolution Satellite Observations for Regional Surface Water Detection, *Remote Sensing*, 14(10).
14. Elmes, A., **Alemohammad S.H.,** et al. (2020), Accounting for Training Data Error in Machine Learning Applied to Earth Observations, *Remote Sensing,* 12(6).
15. **Alemohammad S.H.,** Jagdhuber T., Moghaddam M., Entekhabi D. (2019), Soil and Vegetation Scattering Contributions in L- and P- Band Polarimetric SAR Observations, *IEEE Transactions on Geoscience and Remote Sensing,* 57(11), 8417-8429.
16. Gentine P., Massmann A., Lintner B.R., **Alemohammad S.H.,** et al. (2019), Land–Atmosphere Interactions in the Tropics–A Review, *Hydrology and Earth System Sciences*, 23(10), 4171-4197.
17. Khazaei B., Khatami S., **Alemohammad S.H.,** et al. (2019), Climatic or Regionally Induced by Humans? Tracing Hydro-Climatic and Land-Use Changes to Better Understand the Lake Urmia Tragedy, *Journal of Hydrology*, 569, 203-217.
18. Jagdhuber T., Konings A.G., McColl K.A., **Alemohammad S.H.,** Das N. N., Montzka C., Link M., Akbar R., Entekhabi D. (2019), Physically-Based Modelling of the SMAP Active-Passive Soil Moisture Algorithm, *IEEE Trans. on Geoscience and Remote Sensing*, 57(2), 788-802.
19. **Alemohammad S.H.**, Kolassa J., Prigent C., Aires F., Gentine P. (2018), Global Downscaling of Remotely-Sensed Soil Moisture using Neural Networks, *Hydrology and Earth System Sciences,* 22(10), 5341-5356.
20. Zhang Y., Joiner J., **Alemohammad S.H.,** Zhou S., Gentine P. (2018), A global spatially Continuous Solar Induced Fluorescence (CSIF) dataset using neural networks, *Biogeosciences,* 15(19), 5779-5800.
21. Giardina F., Konings A.G., Kennedy D., **Alemohammad S.H.**, Oliveira R., Uriarte M., Gentine P. (2018), Tall Amazonian forests are less sensitive to precipitation variability, *Nature Geoscience*, 11, 405-409.
22. Gentine P., **Alemohammad S.H.** (2018), RSIF (Reconstructed Solar Induced Fluorescence): a machine-learning vegetation index based on Moderate Resolution Imaging Spectroradiometer surface reflectance and GOME-2 solar induced fluorescence, *Geophysical Research Letters,* 45.
23. **Alemohammad S.H.,** Konings A.G., Jagdhuber T., Moghaddam M., Entekhabi D. (2018), Characterization of Vegetation and Soil Scattering Mechanisms across Different Biomes using P-band SAR Polarimetry, *Remote Sensing of Environment*, 209, 107-117
24. Kolassa J., Reichle R.H., Liu Q., **Alemohammad S.H.,** Gentine P., et al. (2018), Estimating surface soil moisture from SMAP observations using a Neural Network technique, *Remote Sensing of Environment*, 204, 43-59.
25. **Alemohammad S.H.,** Fang B., Konings A.G., Aires F., Green J.K., Kolassa J., Miralles D., Prigent C., Gentine P. (2017), WECANN: Water, Energy, Carbon, Artificial Neural Network, a Microwave and Solar-Induced Fluorescence based statistical retrieval of surface turbulent fluxes, *Biogeosciences*, 14, 4101-4124.

26. Green J.A., Konings A.G., **Alemohammad S.H.,** Berry J., Entekhabi D., Kolassa J., Lee J.-E., Gentine P. (2017), Regionally strong feedbacks between the atmosphere and terrestrial biosphere, *Nature Geoscience,* 10(6), 410-414.
27. Kolassa J., Gentine P., Prigent C., Aires F., **Alemohammad S.H.** (2017), Soil Moisture Retrieval from AMSR-E and ASCAT Microwave Observation Synergy. Part 2: Product Evaluation, *Remote Sensing of Environment*, 195, 202-217.
28. McColl, K.A., **Alemohammad S.H.,** Akbar R., Konings A.G., Yueh S., Entekhabi D. (2017), The global distribution and dynamics of surface soil moisture, *Nature Geoscience*, 10(2), 100-104.
29. McColl K.A., Roy A., Derksen C., Konings A.G., **Alemohammad S.H.,** Entekhabi D. (2016), Triple collocation for binary and categorical variables: application to validating landscape freeze/thaw retrievals, *Remote Sensing of Environment*, 176, 31-42.
30. **Alemohammad S.H.,** McLaughlin D., Entekhabi D. (2015), Characterization of Precipitation Forcing Uncertainty in Land Data Assimilation Using an Ensemble-Based Bayesian Approach, *Monthly Weather Review*, 143(8), 3276-3299.
31. **Alemohammad S.H.,** McColl K.A., Konings A.G., Entekhabi D., Stoffelen A. (2015), Characterization of Precipitation Product Errors across the United States using Multiplicative Triple Collocation, *Hydrology and Earth System Sciences*, 19(8), 3489-3503.
32. **Alemohammad S.H.,** Entekhabi D., McLaughlin D. (2014), Evaluation of Long-Term SSM/I-based Precipitation Records Over Land, *Journal of Hydrometeorology*, 15(5), 2012-2029.
33. Wojcik R., McLaughlin D., **Alemohammad S.H.,** Entekhabi D. (2014), Ensemble-based Characterization of Uncertain Environmental Features, *Advances in Water Resources*, 70, 36-50.
34. **Alemohammad S.H.,** Ardakanian R. (2010), Sea Level Rise and Global Warming (A Literature Review), Journal of Civil Engineering Islamic Azad University, 2(1), 26-32, *(in Persian)*.

PEER-REVIEWED CONFERENCE PAPERS

1. Godwin D., Li H., Cecil M., **Alemohammad H.,** Seeing Through the Clouds: Cloud Gap Imputation with Prithvi Foundation Model, *2nd ICLR Workshop on Machine Learning for Remote Sensing*, Vienna, Austria, 2024.
2. Lacoste A., Lehmann N., Rodriguez P., Sherwin E. D., Kerner H., Lütjens B., Irvin J.A., Dao D., **Alemohammad H.,** Drouin A., Gunturkun M., Huang G., Vazquez D., Newman D., Bengio Y., Ermon S., Zhu X.X., GEO-Bench: Toward Foundation Models for Earth Monitoring, *NeurIPS 2023 Datasets and Benchmarks,* New Orleans, LA, USA, 2023.
3. Fluhrer A., Jagdhuher T., Montzka C., Schumacher M, **Alemohammad H.,** Tabatabaeenejad A., Kunstmann H., Entekhabi D., Estimating Soil Moisture Profiles by Combining P-Band SAR with Hydrological Modeling, *2023 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2023)*, 2846-2849, Pasadena, CA, USA, 2023.
4. Lacoste A., Lehmann N., Sherwin E. D., Kerner H., **Alemohammad H.,** Lütjens B., Irvin J., Dao D., Rodriguez P., Drouin A., Vazquez D., Toward Foundation Models for Earth Monitoring. *Montreal AI Symposium (MAIS)*, 2022.
5. Lacoste A., Sherwin E. D., Kerner H., **Alemohammad H.,** Lütjens B., Irvin J., Dao D., Chang A., Gunturkun M., Drouin A., Rodriguez P., Vazquez D., Toward Foundation Models for Earth Monitoring: Proposal for a Climate Change Benchmark. *NeurIPS 2021 Workshop Tackling Climate Change with Machine Learning,* 2021.
6. **Alemohammad H.**, The Case for Open-Access ML-Ready Geospatial Training Data, *2021 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2021)*, 1146-1148, Brussels, Belgium, Jul. 2021.
7. Guzder-Williams B., **Alemohammad H.,** Surface Water Detection from Sentinel-1, *2021 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2021)*, 286-289, Brussels, Belgium, Jul. 2021.
8. Fluhrer A., Jagdhuher T., Tabatabaeenejad A., **Alemohammad H.,** Montzka C., Schumacher M., Kunstmann H., Complex Permittivity and Penetration Depth Estimation from Airborne P-Band SAR Data Applying a Hybrid Decomposition Method, *2021 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2021)*, 5884-5887, Brussels, Belgium, Jul. 2021.
9. **Alemohammad H.**, Booth K., LandCoverNet: A global benchmark land cover classification training dataset, *NeurIPS 2020 Workshop AI for Earth Sciences*, Vancouver, Canada, Dec. 2020.
10. Mohandoss T., Kulkarni A., Northrup D., Mwebaze E., **Alemohammad H.**, Generating Synthetic Multispectral Satellite Imagery from Sentinel-2, *NeurIPS 2020 Workshop AI for Earth Sciences*, Vancouver, Canada, Dec. 2020.
11. Kulkarni A., Mohandoss T., Northrup D., Mwebaze E., **Alemohammad H.**, Semantic Segmentation of Medium-Resolution Satellite Imagery using Conditional Generative Adversarial Networks, *NeurIPS 2020 Workshop AI for Earth Sciences*, Vancouver, Canada, Dec. 2020.
12. Nachmany Y., **Alemohammad H.**, Detecting Roads from Satellite Imagery in the Developing World, *in Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshop,* 83-89, Long Beach, CA, USA, Jun. 2019.

13. Nachmany Y., **Alemohammad H.**, Generating a Training Dataset for Land Cover Classification to Advance Global Development, in *NeurIPS Workshop on Machine Learning for the Developing World,* Montreal, Canada, Dec. 2018.
14. **Alemohammad S.H.,** Kolassa J., Prigent C., Aires F., Gentine P., Statistical Downscaling of Remotely-Sensed Soil Moisture, *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2017)*, Fort Worth, TX, USA, Jul. 2017.
15. **Alemohammad S.H.,** Kolassa J., Prigent C., Aires F., Gentine P., Statistical Retrieval of Surface and Root Zone Soil Moisture using Synergy of Multi-Frequency Remotely-Sensed Observations, *2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2017)*, Fort Worth, TX, USA, Jul. 2017.
16. **Alemohammad S.H.,** Jagdhuber T., Moghaddam M., Entekhabi D., Decomposing Soil and Vegetation Contributions in Polarimetric L- and P- Band SAR Observations, *2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)*, Beijing, China, Jul. 2016.
17. **Alemohammad S.H.,** Konings A.G., Jagdhuber T., Entekhabi D., Characterizing Vegetation and Soil Parameters across Different Biomes Using Polarimetric P-Band SAR Measurement, *2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)*, Beijing, China, Jul. 2016.
18. Jagdhuber T., Entekhabi D., Hajnsek I., Konings A.G., McColl K.A., **Alemohammad S.H.,** Das N.N., Montzka C., Piles M., Physically-based Retrieval of SMAP Active-Passive Measurements Covariation and Vegetation Structure Parameters, *2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)*, Beijing, China, Jul. 2016.
19. Santi E., Paloscia S., Pettinato S., Entekhabi D., **Alemohammad S.H.,** Konings A.G., Integration of Passive and Active Microwave Data from SMAP, AMSR2 and Sentinel-1 for Soil Moisture Monitoring, *2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2016)*, Beijing, China, Jul. 2016.
20. Obringer R., Zhang X., Mallick K., **Alemohammad S.H.,** Niyogi D., Assessing Urban Droughts in a Smart City Framework, *2016 Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLI-B2, 747-751 (ISPRS 2016), Prague, Czech Republic, Jul. 2016.
21. Jagdhuber T., Entekhabi D., Hajnsek I., Konings A.G., McColl K.A., **Alemohammad S.H.**, Das N.N., Montzka C., Physically-based Active-Passive Modelling and Retrieval for SMAP Soil Moisture Inversion Algorithm, *2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2015)*, Milan, Italy, Jul. 2015.

OPEN-ACCESS DATASETS

1. Godwin D. Li H., **Alemohammad, H.** (2024) Multi-Temporal Cloud Gap Imputation With HLS Data Across CONUS (v1.0), [Data set], Zenodo, https://doi.org/10.5281/zenodo.11281740.
2. Cecil M., Kordi F., Li H., Khallaghi S. **Alemohammad H.** (2023) HLS Multi Temporal Crop Classification Dataset, Version 1.0, Hugging Face, https://doi.org/10.57967/hf/0955.
3. **Alemohammad H.,** Ballantyne A., Bromberg Gaber Y., Booth K., Nakanuku-Diggs L., & Miglarese A.H. (2020) LandCoverNet Africa: A Geographically Diverse Land Cover Classification Training Dataset, Version 1.0, Radiant MLHub, https://doi.org/10.34911/rdnt.jx15e8.
4. **Alemohammad S.H.,** Fang B., Konings A.G., Aires F., Green J.K., Kolassa J., Miralles D., Prigent C., Gentine P. (2017), Water, Energy, and Carbon with Artificial Neural Networks (WECANN): A statistically based estimate of global surface turbulent fluxes using solar-induced fluorescence (1.0), [Data set], Zenodo, https://doi.org/10.5281/zenodo.15231993.

BOOK CHAPTERS

1. Nikravesh M., Ardakanian R., **Alemohammad S.H.,** Institutional Capacity Development of Water Resources Management in Iran, Capacity Development for Improved Water Management, pp. 179-199, CRC Press, 2010.
2. **Alemohammad S.H.,** Ardakanian R., Karimi A., A Framework for Modeling Probabilistic Uncertainty in Rainfall Scenario Analysis, Advances in Hydro-Science and Engineering Volume VIII, Nagoya Hydraulic Research Institute for River Basin Management (NHRI), pp. 472-479, Nagoya, Japan, 2008.

OTHER PUBLICATIONS

1. Michael C., Cardillo R., Opitz R., Reisman M., LaTourette K., Lindenbaum A., Shagnea P., **Alemohammad H.,** Khallaghi S., Godwin D., et al., Generative AI for Geospatial Challenge — A Taylor Geospatial Institute Report, OSF, Sep. 2025, doi:10.17605/OSF.IO/X78W4.
2. Maskey M., **Alemohammad H.,** Murphy K. J., Ramachandran R., Advancing AI for Earth science: A data systems perspective, Eos, 101, Nov. 2020.

3. **Alemohammad H.,** Maskey M., Estes L., Gentine P., Lunga D., Yi Z-F., Advancing Application of Machine Learning Tools for NASA's Earth Observation Data, Workshop Report, Jan. 2020.
4. Lunga D.D., **Alemohammad H.,** Liu Y., Newsam S., Pacifici F., Santos-Villalobos H., Shook E., Stewart R.N., Voisin S., Yang L., Bhaduri, B.L., The Trillion Pixel GeoAI Challenge Workshop Report, Dec. 2019. doi:10.2172/1606744.

PATENT

McLaughlin D., Entekhabi D., Wojcik R., **Alemohammad S.H.,** Generating Information Conditional on Mapped Measurements, U.S. Patent Application 13/489,762.

INVITED TALKS

1. AGU Fall Meeting, December 2025
2. NASEM Workshop on Future Directions for Earth Observations and Data Stewardship, December 2025
3. NY Climate Week, September 2025
4. GeoGov Summit, September 2025
5. Esri Imagery & Remote Sensing Educators Summit, May 2025
6. IBM Research Climate and Sustainability Deep Dives, April 2025
7. Department of Geography, UC Santa Barbara, March 2025
8. Korean Academy of Development Policy, November 2024
9. Washington University in St. Louis, October 2024
10. Mathematica, October 2024
11. New York State Geospatial Summit, September 2024
12. Amazon Sustainability Speaker Series, May 2024
13. Harvard CGA GeoAI Conference, May 2024
14. Measuring Development, World Bank, May 2024
15. Harvard Center for Geographical Analysis, March 2024
16. CV4EO Workshop at IEEE WACV, January 2024
17. Trillion Pixel Challenge Workshop, ORNL, June 2023
18. International Workshop on Earth Observation for Food Security, World Bank, May 2023
19. Clark University Graduate School of Geography Centennial, April 2023
20. GeoBuiz Summit, March 2023
21. SatSummit, September 2022
22. Ethiopia's Digital Agricultural Extension and Advisory Services Roadmap Convening, July 2022
23. AGU Fall Meeting, December 2021
24. NASA GES DISC, November 2021
25. UN World Data Forum, October 2021
26. ESA Phi Week, October 2021
27. NASA SMD AI/ML Tag Up, September 2021
28. Deep Learning IndabaX, Sudan, September 2021
29. Deep Learning IndabaX, Tanzania, June 2021
30. World Resources Institute, May 2021
31. eScience Institute, University of Washington, March 2021
32. Centre for Satellite Data in Environmental Science, University of Leeds, March 2021
33. Department of Earth System Science, Stanford University, February 2021
34. Borlaug Dialogue, October 2020
35. CGIAR Big Data in Agriculture Convention, October 2020
36. ESA Phi Week, September 2020
37. Google Brain, Accra, September 2020
38. GIZ Remote Sensing Forum, May 2020
39. Chatham House, August 2019
40. ESIP Summer Meeting, July 2019
41. ICT4Ag, June 2019
42. AI for Good Summit, May 2019
43. AGU Fall Meeting, December 2018
44. AWS's Earth Analytics in the Cloud Day, University of Colorado, Boulder, October 2017
45. Department of Civil and Environmental Engineering, University of Wisconsin- Milwaukee, September 2017
46. Earth Science Division, NASA Ames Research Center, February 2017
47. Columbia Water Center, Columbia University, September 2016
48. Department of Agronomy, Purdue University, March 2015
49. Department of Civil and Environmental Engineering, Princeton University, September 2014
50. Hydrosystems Laboratory, University of Illinois at Urbana-Champaign, June 2014
51. Earth System Science Interdisciplinary Center (ESSIC), University of Maryland, College Park, May 2014

52. Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, March 2014
53. Department of Civil and Environmental Engineering, University of Connecticut, April 2012
54. Center for Hydrometeorology and Remote Sensing, University of California, Irvine, March 2010

CONFERENCE PRESENTATIONS

1. **Alemohammad H.,** Khallaghi S., Yao Y.-T., Simonson E., Exploring Crop Properties in Earth Observation Foundation Model Embeddings (invited), 2025 AGU Annual Meeting, New Orleans, LA, USA, Dec. 2025.
2. **Alemohammad H.,** Bridging the Funding Gap: Collaborative Models for Geospatial Education and Research, GeoGov Summit, September 2025.
3. **Alemohammad H.,** Charting a New Terrain: Reimagining Geospatial Curriculum for the Age of Climate, Data and AI, Workshop on Geospatial Workforce Development for Climate Adaptation, Yale Center for Geospatial Solutions, June 2025.
4. **Alemohammad H.,** Advancing Geospatial Science with GeoAI, Esri Imagery & Remote Sensing Educators Summit (invited), Virtual, May 2025.
5. **Alemohammad H.,** Khallaghi S., Godwin D., Balogun R., Yao, Y.-T., Roy S., Ramachandran R.: An Explainable AI (XAI) Benchmark for Geospatial Foundation Models, ESA-NASA International Workshop on AI Foundation Model for EO, ESA-ESRIN, Frascati, Italy, May 2025.
6. **Alemohammad H.,** Khallaghi S., Godwin D., Balogun R., Roy S., Ramachandran R.: An Explainable AI (XAI) Benchmark for Geospatial Foundation Models, EGU General Assembly 2025, Vienna, Austria, Apr. 2025.
7. **Alemohammad H.,** Exploring Earth Foundation Models and their Knowledge, IBM Research Climate and Sustainability Deep Dives (invited), Virtual, April 2025
8. **Alemohammad H.,** Do Foundation Models Learn Geospatial Properties?, 2025 AAG Annual Meeting, Detroit, MI, USA, Mar. 2025.
9. **Alemohammad H.,** Advancing Geospatial Analytics with AI: Exploring Earth Foundation Models and Their Knowledge, Jack and Laura Dangermond Lecture, Department of Geography, UC Santa Barbara, Mar. 2025.
10. **Alemohammad H.,** Godwin D., Balogun R., Khallaghi S., Roy S., Ramachandran R., GFM-Bench: A Benchmark to Evaluate Geospatial Characteristics of Foundation Models, 2024 AGU Annual Meeting, Washington, DC, USA, Dec. 2024.
11. **Alemohammad, H.,** Transforming Global Challenges with Geospatial AI, Korean Academy of Development Policy Winter Conference (invited), Nov. 2024.
12. **Alemohammad, H.,** Advancing Foundation Models for Geospatial Applications, Washington State University (invited), Oct. 2024.
13. **Alemohammad, H.,** Advancing Foundation Models for Geospatial Applications, Mathematica (invited), Oct. 2024
14. **Alemohammad, H.,** The State of GeoAI: Advancements, Opportunities, and Challenges, New York State Geospatial Summit (invited), Sep. 2024.
15. **Alemohammad, H.,** Advancements and Applications of Foundation Models for Earth Observations, Amazon Sustainability Speaker Series (invited), Virtual, May 2024.
16. **Alemohammad, H.,** The State of GeoAI: Opportunities, Challenges, and Risks, Evaluating the Science of Geospatial AI, Harvard CGA 2024 Conference (invited), Cambridge, MA, May 2024.
17. **Alemohammad, H.,** Reproducibility and Uncertainty in the Era of Geospatial AI, Evaluating the Science of Geospatial AI, Harvard CGA 2024 Conference, Cambridge, MA, May 2024.
18. **Alemohammad, H.,** Transforming Global Challenges with Geospatial Analytics, US Summit: The National Geospatial Ecosystem of the United States at the 2024 Geospatial World Forum, Rotterdam, The Netherlands, May 2024.
19. **Alemohammad, H.,** Advancing Foundation Models for Geospatial Applications with Scarce Reference Data, Measuring Development (invited), Washington, DC, May 2024.
20. **Alemohammad, H.,** Fine-Tuning Foundation Models for Downstream Applications of Remote Sensing Data, 2024 AAG Annual Meeting, Honolulu, HI, Apr. 2024.
21. **Alemohammad, H.,** A New Era for Geospatial Analytics: Advancements and Applications of Foundation Models in Remote Sensing, Harvard ABCD-GIS / Geography Colloquium, Harvard Center for Geographic Analysis (invited), Cambridge, MA, May 2024.
22. **Alemohammad, H.,** Applications of Foundation Models in Earth Sciences Applied to Remote Sensing Imagery, 2nd U.S.-Africa Frontiers of Science, Engineering, and Medicine Symposium, Rabat, Morocco, Jan. 2024.
23. **Alemohammad, H.,** Transforming Earth Observation Analytics: Advancements and Applications of Foundation Models in Remote Sensing, CV4EO Workshop at IEEE WACV (invited), Waikoloa Beach, HI, USA, Jan. 2024.

24. **Alemohammad, H.,** Li H., Cecil M., Khallaghi S., Godwin D., Ahmadi M., Kordi F., Roy S., Jakubik J., Fraccaro P., Ganti R., Ramachandran R., Exploring Effectiveness of Foundation Models for Downstream Applications on Satellite Data, 2023 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2023.
25. **Alemohammad, H.,** AI and open remote sensing data for crop yields prediction, International workshop on Earth Observation for Food Security, World Bank (invited), Washington, DC, USA, May 2023.
26. **Alemohammad, H.,** Incorporating Training Data Uncertainty in Machine Learning Models for Satellite Imagery, European Geophysical Union 2023, Vienna, Austria, Apr. 2023.
27. **Alemohammad, H.,** Amplifying Impact through Collaborative Ecosystems for Geospatial Analytics, GeoBuiz Summit, Monterey, CA, USA, Mar. 2023.
28. **Alemohammad, H.,** An Ecosystem of Open Benchmark Data and Models to Advance Agricultural Monitoring from Earth Observations, 1st U.S.-Africa Frontiers of Science, Engineering, and Medicine Symposium, Nairobi, Kenya, Oct. 2022.
29. **Alemohammad, H.,** State of AI and EO, 2022 SatSummit (invited), Washington, DC, USA, Sep. 2022.
30. **Alemohammad, H.,** Radiant MLHub: Advancing Machine Learning Applications in Earth Sciences with Benchmark Training Data and Models, ESA Living Planet Symposium, Bonn, Germany, May 2022.
31. **Alemohammad, H.,** Collaborative Workflows and Communities to Advance Geospatial Machine Learning Applications, 2nd Geospatial Knowledge Infrastructure Summit, Feb. 2022.
32. **Alemohammad, H.,** Open-Source Standards and Communities to Advance Geospatial Machine Learning Applications, ESIP Winter Meeting, Jan. 2022.
33. **Alemohammad, H.,** Open Machine Learning-Ready Data and Standards to Support Decision Making based on Earth Observations (invited), 2021 AGU Annual Meeting, New Orleans, LA, USA, Dec. 2021.
34. **Alemohammad, H.,** Radiant MLHub: From Ground Referencing to ML-Ready Training Data, GEOGLAM In Situ Side Meeting, GEO Week, Nov. 2021.
35. **Alemohammad, H.,** Developing Reusable and Discoverable Machine Learning Workflows in Earth Sciences (invited), NASA GES DISC, Nov. 2021.
36. **Alemohammad, H.,** Radiant MLHub: From Ground Referencing to ML-Ready Training Data (invited), 50×2030 at the World Data Forum, Oct. 2021.
37. **Alemohammad, H.,** Machine Learning on Earth Observations: Introduction and Applications (invited), Sudan IndabaX 2021, Sep. 2021.
38. **Alemohammad, H.,** Machine Learning on Earth Observations to Address Global Development Challenges (invited), Tanzania IndabaX 2021, Jun. 2021.
39. **Alemohammad, H.,** Radiant MLHub: An Open-Access Repository of ML-Ready EO Data (invited), ESA Phi-Week, Oct. 2021.
40. **Alemohammad S.H.,** Radiant MLHub: Advancing Utilization of AI Applications on Earth Observations with Benchmark Training Datasets, 2nd NOAA AI Workshop, College Park, MD, USA, Feb. 2021.
41. **Alemohammad S.H.,** LandCoverNet: Generating a Human-Verified Global Land Cover Classification Training Dataset, 2020 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2020.
42. **Alemohammad S.H.,** Radiant MLHub: A Repository for Machine Learning Ready Geospatial Training Data, 2019 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2019.
43. **Alemohammad S.H.,** Earth Observations and AI for Agricultural Monitoring, Harnessing Big Data and AI for Sustainable and Inclusive Agriculture, Chatham House, London, UK, July 2019.
44. **Alemohammad S.H.,** Radiant ML Hub, A Cloud Based Commons for Geospatial Training Datasets, ESIP Summer Meeting, Tacoma, WA, USA, July 2019.
45. **Alemohammad S.H.,** Machine Learning Commons for Agricultural Monitoring, ICT for Agriculture, Washington, DC, USA, June 2019.
46. **Alemohammad S.H.,** Earth Observations and AI for Global Impact, AI for Good Summit (invited), Geneva, Switzerland, May 2019.
47. **Alemohammad S.H.,** Earth Observations and Cloud Technology for Improved Agricultural Decision Making (invited), 2018 AGU Annual Meeting, Washington, DC, USA, Dec. 2018.
48. **Alemohammad S.H.,** Open Source Geospatial Platform to Tackle Environmental and Development Challenges, 2018 AGU Annual Meeting, Washington, DC, USA, Dec. 2018.
49. **Alemohammad S.H.,** Radiant Earth Foundation Platform, SatSummit, Washington, DC, USA, Sep. 2018.

50. **Alemohammad S.H.,** Radiant.Earth overview and platform demonstration, Annual World Bank Conference on Land and Poverty, Washington, DC, USA, Mar. 2018.
51. **Alemohammad S.H.,** Kolassa J., Prigent C., Aires F., Gentine P., Downscaling Remotely-Sensed Soil Moisture Estimates using Machine Learning Techniques, 16th Conference on Artificial Intelligence and its Applications to the Environmental Sciences, Baltimore, MD, USA, Jul. 2017.
52. **Alemohammad S.H.,** Kolassa J., Prigent C., Aires F., Gentine P., Neural Network-Based Retrieval of Surface and Root Zone Soil Moisture using Multi-Frequency Remotely-Sensed Observations, 2017 EGU General Assembly, Vienna, Austria, Apr. 2017.
53. **Alemohammad S.H.,** Gentine P., Kolassa J., Prigent C., Aires F., Neural Network Based Retrieval of Root Zone Soil Moisture using Synergy of L- and X-Band Remotely Sensed Observations, 2016 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2016.
54. **Alemohammad S.H.**, Gentine P., Kolassa J., Prigent C., Aires F., Statistical Retrieval of Root Zone Soil Moisture using Synergy of Multiple-Frequency Remote Sensing Observations, 3rd International Soil Moisture Validation and Application Workshop, New York, NY, Sep. 2016.
55. **Alemohammad S.H.,** McColl K.A., Konings A.G., Entekhabi D., Spatio-Temporal Error Characterization of Geophysical Variables Using Collocation Methods, Joint Statistical Meetings 2016, Chicago, IL, USA, Aug. 2016
56. **Alemohammad S.H.,** Jagdhuber T., Moghaddam M., Entekhabi D., Decomposing Soil and Vegetation Contributions in Polarimetric L- and P- Band SAR Observations, International Geoscience and Remote Sensing Symposium 2016 (IGARSS 2016), Beijing, China, Jul. 2016.
57. **Alemohammad S.H.,** Konings A.G., Jagdhuber T., Entekhabi D., Characterizing Vegetation and Soil Parameters across Different Biomes Using Polarimetric P-Band SAR Measurement, International Geoscience and Remote Sensing Symposium 2016 (IGARSS 2016), Beijing, China, Jul. 2016.
58. **Alemohammad S.H.,** Konings A.G., Jagdhuber T., Entekhabi D., Retrieving Vegetation Parameters and Soil Reflection Coefficients with P-band SAR Polarimetry, 2015 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2015.
59. **Alemohammad S.H.,** Konings A.G., Jagdhuber T., Entekhabi D., Retrieving Vegetation and Soil Parameters from Active Polarimetric P-band Observations, International Geoscience and Remote Sensing Symposium 2015 (IGARSS 2015), Milan, Italy, Jul. 2015.
60. **Alemohammad S.H.,** McColl K.A., Konings A.G., Entekhabi D., Stoffelen A., Characterizing Precipitation Product Errors across the United States using Triple Collocation, 20th Conference on Satellite Meteorology and Oceanography, 95th AMS Annual Meeting, Phoenix, AZ, USA, Jan. 2015.
61. **Alemohammad S.H.,** McLaughlin D., Entekhabi D., Characterizing Precipitation Forcing Uncertainty in Land Data Assimilation Using an Ensemble-Based Bayesian Approach, 2014 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2014.
62. **Alemohammad S.H.,** McLaughlin D., Entekhabi D., Quantifying Uncertain Remotely-Sensed Rainfall Estimates using an Ensemble-Based Bayesian Approach, Joint Statistical Meetings 2014, Boston, MA, USA, Aug. 2014.
63. **Alemohammad S.H.,** Entekhabi D., McLaughlin D., Evaluation of Long-Term SSM/I-based Precipitation Records, 2012 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2012.
64. Wojcik R., McLaughlin D., **Alemohammad S.H.,** Entekhabi D., Ensemble-Based Fusion of Noisy Images, International Conference on Ensemble Methods in Geophysical Sciences, Toulouse, France, Nov. 2012.
65. **Alemohammad S.H.,** Entekhabi D., McLaughlin D., A Parametric Rainfall Replicate Generation Method, 2011 AGU Annual Meeting, San Francisco, CA, USA, Dec. 2011.
66. **Alemohammad S.H.,** Entekhabi D., Merging Satellite Measurements of Rainfall Using Multi-scale Imagery Technique, WCRP Open Science Conference, Denver, CO, USA, Oct. 2011.
67. **Alemohammad S.H.,** Wojcik R., McLaughlin D., Entekhabi D., Likelihood Estimation for Bayesian Assimilation of Remotely Sensed Rainfall Data, 10th International Precipitation Conference, Coimbra, Portugal, Jun. 2010

TEACHING EXPERIENCE

CLARK UNIVERSITY

- Instructor: Advanced Geospatial Analytics with Python **2023 - present**

MIT **2011 - 2014**

- Co-Lecturer: Introduction to Hydrologic Modeling
- Guest Lecturer: Introduction to Hydrology
- Teaching Assistant: Introduction to Hydrology, Environmental Fluid Transport Processes Laboratory, Discover Earth, Atmospheric and Planetary Sciences

- Teaching Certificate: Teaching and Learning Laboratory at MIT

Sharif University of Technology **2005 - 2008**

- Teaching Assistant: Water Resources Systems Analysis, Engineering Hydrology, Hydraulics of Open Channels

Sharif University of Technology, International Campus **2007 - 2008**

- Teaching Assistant: Engineering Hydrology, Hydraulics of Open Channels, Water and Wastewater Engineering

PODCASTS

1. Impact AI, December 2023 (link)
2. Minds Behind Maps, December 2022 (link)
3. Dirt on Data, July 2022 (link)
4. Practical AI, January 2022 (link)
5. All in the Field: AWS Agriculture, December 2020 (link)
6. TWIML Fest, October 2020 (link)
7. The Scene from Above, February 2020 (link)

HONORS AND AWARDS

1. **Open Science Recognition Prize** for Prithvi-Geospatial AI Foundation Model Team, AGU, 2025
2. **Group Achievement Award,** NASA, 2025
3. **Jack and Laura Dangermond Lecture,** The University of California Santa Barbara, 2025
4. **Group Achievement Honor Award,** NASA Marshall Space Flight Center, 2024
5. **Neekeyfar Fund Award**, Office of the Dean for Graduate Education, MIT, 2012
6. **Arthur T. Ippen Fellowship**, Department of Civil and Environmental Engineering, MIT, 2011 & 2012
7. **Travel Support**, World Meteorological Organization (WMO) to attend WCRP Open Science Conference, 2011
8. **MIT-Imperial College Global Fellows**, 2011
9. **Participant Aid Program Scholarship**, 5th World Water Forum Secretariat, 2009
10. **Letter of Commendation**, Managing Director of the National Water and Wastewater Engineering Company for participating in preparing the Country Reports on "Delivery of Millennium Development Goals (MDG) for Water and Sanitation", 2nd Asia-Pacific Ministerial Conference on Housing and Urban Development, 2008
11. **Exceptional Talented Student Title**, Admissions Office of Sharif University of Technology and exempted from M.Sc. program entrance exam, 2007
12. **Concrete Competitions Award-2004**, Iranian Concrete Institute (ICI) for being the national champion in the Concrete Cube Competitions, 2004
13. **Brilliant Talented Student Title**, Iran Graduate Admission Office for being in top 0.1% in Iran National Entrance Exam among over 500,000 test takers, 2003

STUDENTS AND POSTDOCTORAL RESEARCHERS

Postdoctoral Researchers

1. Sam Khallaghi (Summer 2024 -)
2. Varun Tiwari (Spring 2025 -)(co-advised with Chris Williams)

PhD Student Advisees

1. Fatemeh Kordi (2023 -)(co-advised with John Rogan)
2. Denys Godwin (2024 -)
3. Rufai Omowunmi Balogun (2024 -)

PhD Committee Member

1. Morgan Lehman (Clark University)
2. Rahebe Abedi (Clark University)
3. Mahya Ghazi Zadeh Hashemi (Michigan State, 2024)

Master's Committee Member

1. Mina Burns (Oregon State University)

Research Assistants

1. Fatemeh Kordi (Summer 2023, Summer 2025)
2. Pacifique Madibi (Spring 2025 -)
3. Denys Godwin (Summer 2023 -)
4. Rufai Omowunmi Balogun (Fall 2024 -)

5. Caleb Kluchman (Spring 2025)
6. Hanxi (Steve) Li (Spring 2023 - Spring 2024)
7. Sam Khallaghi (Summer 2023 - Spring 2024)
8. Michael Cecil (Spring - Fall 2023)
9. Maryam Ahmadi (Summer 2023)

NON-CLARK SERVICES

- Member of the International Programme Committee, IAF Global Space Conference on Climate Change, 2026
- Session Chair, AGU Fall Meeting 2016-2020, 2023-2025
- Member of the Program Committee, ESA-NASA International Workshop on AI Foundation Model for EO, 2025
- Co-Organizer, ICLR Workshop on Machine Learning for Remote Sensing, 2023-2025
- Member of the Program Committee, 2nd Computer Vision for Earth Observation (CV4EO) Workshop at WACV, 2025
- Session Co-Chair, 2022 ESA Living Planet Symposium
- Session Co-Organizer, 2021 ESIP Summer Meeting
- Session Co-Convener, 2021 EGU General Assembly
- Lead Organizer, Workshop on Advancing Application of Machine Learning Tools for NASA's Earth Observation Data, 2020
- Co-Organizer, ICLR Workshop on Computer Vision for Agriculture (CV4A), 2020
- Member of Program Committee, 2019 Analysis Ready Data Workshop on Satellite Data Interoperability
- Lead Organizer, Workshop on Machine Learning for Global Land Cover Classification, 2018
- Session Chair, 2017 IEEE International Geoscience and Remote Sensing Symposium
- Member of the organizing committee, Environmental Sciences Seminar Series, Parsons Laboratory for Environmental Science and Engineering, MIT, 2015-2016
- Founder and Director, 1st MIT Water Night, 2013
- Student Representative, AGU Global Environmental Change (GEC) Focus Group, 2011-2014
- Member of the organizing committee, MIT Energy Night, 2011
- Member of the organizing committee, Food, Water and Energy Workshop, MIT Energy Conference, 2011
- Student Representative, Committee on Student Life, MIT, 2011-2012
- Co-Chair, International Students Mentorship Program, MIT, 2011
- Vice President, Persian Student Association (PSA), MIT, 2011-2012
- Secretary of the Seminar, Water, Hydraulic Structures and Environment, Sharif University of Technology, 2008
- Member of Central Board, Nahal NGO, 2008
- Member of Water Working Group, Nahal NGO, 2007

CLARK UNIVERSITY SERVICES

- Member of AI Fast Action Working Group, Summer 2025
- Member of MSGIS Steering Committee, Spring 2023 - present
- Member of GSG Tenure and Promotion Committee, Fall 2024
- Member of Search Committee, MSGIS VAP, Spring 2024
- Member of the Executive Working Group, School of Climate, Environment and Society, Fall 2023 – Spring 2024
- Member of the Administrative Committee, School of Climate, Environment and Society, Fall 2023 – Spring 2024
- Member of GSG Reappointment Committee, Fall 2023
- Member of the Implementation Committee, School of Climate, Environment and Society, Spring 2023

EDITORIAL SERVICES

- Member of Editorial Board, *Machine Learning: Earth*, 2025
- Associate Editor, AI in Food, Agriculture and Water, 2019 – 2021, 2024 -
- Reviewer for *NeurIPS 2025, Schmidt Sciences AI2050 Early Career Fellowship*, *CV4EO 2025 Workshop, Nature Communications, NeurIPS 2023, CVPR EarthVision Workshop (2024, 2023, 2021), IEEE Trans. on Geoscience and Remote Sensing, Geophysical Research Letters, Water Resources Research, Remote Sensing Letters, Monthly Weather Review, Journal of Hydrometeorology, Journal of Climate, Advances in Water Resources, Frontiers In Sustainable Food Systems, Journal of Hydrology, Journal of Applied Meteorology and Climatology, Remote Sensing, Sensors, Advances in Meteorology, Advances in Space Research, Water and Environment Journal, and Iran Water Resources Research.*
- Reviewer for NASA ROSES Solicitations 2016, 2017, 2018, 2020, 2021, 2023, 2024 (8 panels total across *NESSF, AIST, CSDA, ECIP, HPOSS*).
- Reviewer, Climate Change AI Innovation Grants Program, 2023.
- Area Chair, 2021 British Machine Vision Conference.
- Meta-reviewer, Climate Change AI Innovation Grants Program, 2021.
- Reviewer, *AGU Annual Meeting Student Travel Grant, 2013.*
- Reviewer, *AGU David E. Lumley Young Scientist Scholarship for Energy and Environmental Science, 2013.*

- Associate Editor, Journal of Hydrology, 2017.
- Member of Editorial Advisory Board and Reviewer of the Book, *Handbook of Research on Hydroinformatics: Technologies, Theories and Applications*, Tagelsir Mohamed Gasmelseid (Editor), IGI Global, Hershey, PA, 2011.
- Member of Editorial Board of the website *Learn Data Analysis (LDA).*
- Member of Editorial Board of *Sharif Civil Magazine* (ISSN 1023-7437), Volumes 35 & 36.

PROFESSIONAL MEMBERSHIPS

AGU, IEEE, AAG, EGU