Pouya Hosseinzadeh *Curriculum Vitae*

Ph.D. Candidate

Department of Computer Science
Utah State University
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Web of Science profile: https://www.webofscience.com/wos/author/record/ITU-4733-2023

Google Scholar: https://scholar.google.com/citations?user=0SS0AlcAAAAJ&hl=en
(Articles: 9, Citations: 68)

ResearchGate: https://www.researchgate.net/profile/Pouya-Hosseinzadeh-2
(Research items: 9, Citations: 75)

GitHub: https://github.com/pouyahosseinzadeh

Website: https://pouyahosseinzadeh.github.io/

Education

Ph.D.	Doctor of Philosophy in Computer Science (January 2022-present) Utah State University (Logan, UT)

- Time Series Data Mining and Machine Learning
- Advisor: Dr. Soukaina Filali Boubrahimi

M.Sc. 2021)	Master of Science in Computer and Automation Engineering (September 2017- July University of Siena (Siena, Italy)

- Robotics and Artificial Intelligence
- GPA: 101 (out of 110)
- Advisor: Dr. Marco Maggini
- Thesis: Comparison of the Statistics of Human and Automatically Generated Texts

B.Sc.	Bachelor of Science in Computer Engineering (September 2011- February 2016) University of Tabriz (Tabriz, Iran)

Research Interests

Time Series Forecasting
Machine Learning (ML)
Space Weather Forecasting

Hydrology and Flood Forecasting
Data Mining
Artificial Intelligence (AI)
Deep Learning

Honors and Awards

1. Awarded fully-funded Graduate Research Assistantship (GRA) for Computer Science Ph.D. program, Utah State University, 2022.

2. Awarded fully-funded Graduate Teaching Assistantship (GTA) for Computer Science Ph.D. program, Utah State University, 2022.

Publications

Peer-reviewed journal articles (Published)

1. **Hosseinzadeh, P.**, Nassar, A., Boubrahimi, S. F., & Hamdi, S. M. (2023). ML-Based Streamflow Prediction in the Upper Colorado River Basin Using Climate Variables Time Series Data. Hydrology, *10*(2), 29. https://doi.org/10.3390/hydrology10020029

2. Whitman, K., Egeland, R., Richardson, I. G., Allison, C., Quinn, P., Barzilla, J., ... & **Hosseinzadeh, P.** (2022). Review of solar energetic particle models. Advances in Space Research. https://doi.org/10.1016/j.asr.2022.08.006

3. **Hosseinzadeh, P.**, Boubrahimi, S. F., & Hamdi, S. M. (2024) "Improving Solar Energetic Particle Event Prediction through Multivariate Time Series Data Augmentation." The Astrophysical Journal Supplement Series (ApJS). https://doi.org/10.3847/1538-4365/ad1de0

4. Filali Boubrahimi, S., Neema, A., Nassar, A., **Hosseinzadeh, P.**, & Hamdi, S. M. (2024). Spatiotemporal data augmentation of MODIS-landsat water bodies using adversarial networks. Water Resources Research, 60(3), e2023WR036342. https://doi.org/10.1029/2023WR036342

5. **Hosseinzadeh, P.**, Filali Boubrahimi, S., & Hamdi, S. M. (2024). Toward Enhanced Prediction of High-Impact Solar Energetic Particle Events Using Multimodal Time Series Data Fusion Models. Space Weather, 22(6), e2024SW003982. https://doi.org/10.1029/2024SW003982

6. Thota, S., Nassar, A., Filali Boubrahimi, S., Hamdi, S. M., & **Hosseinzadeh, P.** (2024). Enhancing Monthly Streamflow Prediction Using Meteorological Factors and Machine Learning Models in the Upper Colorado River Basin. Hydrology, 11(5), 66. https://doi.org/10.3390/hydrology11050066

Conference papers (Published)

7. **Hosseinzadeh, P.**, Bahri, O., Li, P., Boubrahimi, S. F., & Hamdi, S. M. (2023, December). METFORC: Classification with Meta-Learning and Multimodal Stratified Time Series Forest. In 2023 International Conference on Machine Learning and Applications (ICMLA) (pp. 1248-1252). IEEE.

8. Li, P., **Hosseinzadeh, P.**, Bahri, O., Boubrahimi, S. F., & Hamdi, S. M. (2023, December). Adversarial Attack Driven Data Augmentation for Time Series Classification. In 2023 International Conference on Machine Learning and Applications (ICMLA) (pp. 653-658). IEEE.

9. Bahri, O., Li, P., **Hosseinzadeh, P.**, Boubrahimi, S. F., & Hamdi, S. M. (2023, December). Shapelet-Preserving Bootstrapping For Time Series Data Augmentation. In 2023 International Conference on Machine Learning and Applications (ICMLA) (pp. 453-458). IEEE.

Research Projects

1. Combining Physics and Machine Learning-based Models for Full-Energy-Range Solar Energetic Particles Events Prediction (2022-present)
   - $527,129 (National Science Foundation (NSF), through Division of Atmospheric and Geospace Sciences (AGS)) #2204363
   - Principal Investigator: Dr. Soukaina Filali Boubrahimi (Utah State University)
   - Role: Graduate Research Assistant

Professional activities

Referee (reviewer) in peer-review journals and international conferences

- Using Feature Engineering and Machine Learning in FAO Reference Evapotranspiration Estimation (*Journal of Hydrology and Hydromechanics*)
- Classification of Visual Information Presentation using Graph Neural Networks (*22nd IEEE International Conference on Machine Learning and Application (ICMLA)*)
- Reinforcement Learning Based Dark Image Enhancement Through Color Feature Balancing (*22nd IEEE International Conference on Machine Learning and Application (ICMLA)*)
- TransGlow: Attention-augmented Transduction model based on Graph Neural Networks for Water Flow Forecasting *22nd IEEE International Conference on Machine Learning and Application (ICMLA)*)
- Solar Flare Prediction using Time Series Features of Photospheric Magnetic Field Parameters *22nd IEEE International Conference on Machine Learning and Application (ICMLA)*)
- Few-Shot Fine-Grained Recognition in Remote Sensing Ship Images With Global and Local Feature Aggregation (*Advances in Space Research*)

Professional Memberships

- American Geophysical Union (AGU), Since August 2022-Present.
- Institute of Electrical and Electronics Engineers (IEEE), Since August 2023-Present.
- Association for Computing Machinery (ACM), Since August 2023-Present.

Academic Experiences

- Guest lecturer in Applied Deep Learning, Utah State University, Mar 2023.
- Guest lecturer in Time Series Data Mining, Utah State University, Nov 2023.

Skills

Programming Skills

- Python (Professional level)
- MATLAB (Professional level)
- Java (Intermediate level)
- C/C++ (Intermediate level)
- R (Intermediate level)
- HTML (Intermediate level)
- Assembly (Intermediate level)

Machine Learning Environments

- PyCharm
- Anaconda
- Google Colaboratory
- Jupyter Notebook

Engineering Software

- Microsoft SQL Server
- Cisco Packet Tracer
- Simatic manager 5.5