Pouya Hosseinzadeh   *Curriculum Vitae*

Ph.D. Student

Department of Computer Science
Utah State University
4110 Old Main Hill, Logan, Utah, USA, 84321

pouya.hosseinzadeh@usu.edu | pouyahosseinzadeh@gmail.com

ORCID: 0000-0001-8045-2709

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: 2, Citations: 26)

ResearchGate: https://www.researchgate.net/profile/Pouya-Hosseinzadeh-2
(Research items: 4, Citations: 36)

GitHub: https://github.com/pouyahosseinzadeh

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
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. hitman, 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

Peer-reviewed journal articles (Under review)

1. **Hosseinzadeh, P**, Boubrahimi, S. F., & Hamdi, S. M. "Improving Solar Energetic Particle Event Prediction through Multivariate Time Series Data Augmentation." *The AstroPhysical Journal Supplement Series (ApJS).* (The first major revision submitted to the journal on Oct 20, 2023)

2. **Hosseinzadeh, P**, Boubrahimi, S. F., & Hamdi, S. M. "Towards Enhanced Prediction of High-Impact Solar Energetic Particle Events using Multimodal Time Series Data Fusion Models." *Space Weather*. (The manuscript submitted to the journal on Nov 2, 2023)

Accepted conference papers will be presented in international conferences (Publication dates: December 2023)

1. **Hosseinzadeh, P**, Bahri, O., Li, P., Boubrahimi, S. F., & Hamdi, S. M. "METFORC: Classification with Meta-Learning and Multimodal Stratified Time Series Forest." *22nd IEEE International Conference on Machine Learning and Applications (ICMLA).* (Publication date: December 2023)

2. Li, P., **Hosseinzadeh, P**., Bahri, O., Li, P., Boubrahimi, S. F., & Hamdi, S. M. "Adversarial Attack Driven Data Augmentation for Time Series Classification." *22nd IEEE International Conference on Machine Learning and Applications (ICMLA).* (Publication date: December 2023)

3. Bahri, O., Li, P., **Hosseinzadeh, P.**, Boubrahimi, S. F., & Hamdi, S. M. "Shapelet-Preserving Bootstrapping for Time Series Data Augmentation." *22nd IEEE International Conference on Machine Learning and Applications (ICMLA).* (Publication date: December 2023)

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

2. CAREER: End-to-End Active Region-based Heliospheric Forecasting System Using Multi-spacecraft Data and Machine Learning (2023-present)
    * $691,972 (National Science Foundation (NSF), through Division of Atmospheric and Geospace Sciences (AGS)) #2240022
    *   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)*)

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

Spatial Analysis & Construction Software

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