

### Ph.D. Student

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=OSS0AlcAAAAJ&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>

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### 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. Master of Science in Computer and Automation Engineering (September 2017- July 2021)  
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