

Amirreza Dolatpour Fathkouhi

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Education

- **Ph.D. of Computer Science** 2023 - 2028
University of Virginia, Charlottesville, USA
Research domain: Foundation Model for Astronomy
Supervisor: Prof. Geoffrey Fox
- **Bachelor of Computer Engineering** 2018 - 2022
Shiraz University of Technology, Shiraz, Iran
GPA: 3.671 (out of 4)

Research Interests

- Deep Learning, Machine Learning, Computer Vision, and AI for Science.

Research Articles

- **Scalable Cosmic AI Inference using Cloud Serverless Computing with FMI** [Peer Review]
International Journal of High Performance Computing Applications.
Staylor Mills, Amirreza Dolatpour Fathkouhi, Khairul Islam, Kaleigh O'Hara, Ryan Ghiles Goudjil, Geoffrey C. Fox, Judy Fox
- **AstroMAE: Redshift Prediction Using a Masked Autoencoder with a Novel Fine-Tuning Architecture** [Accepted]
20th IEEE International Conference on e-Science.
Amirreza Dolatpour Fathkouhi, Geoffrey C. Fox

Research Experience

- **Researcher** Dec 2023 - Now
Department of Computer Science, University of Virginia
Working on unimodal and multimodal foundation models for astrophysics data.
- **Researcher** April 2022 - Dec 2023
Department of Electrical and Computer Engineering, University of Windsor
Worked on applying a swarm intelligence optimizer to the LIME algorithm.
- **Researcher** Feb 2022 - April 2022
Data Modeling, Processing, and Analysis Research Group, Shiraz University of Technology
Worked on preprocessing, analyzing, and modeling the medical data.
- **Researcher** June 2020 - April 2022
Department of Electrical and Electronic Engineering, Shiraz University of Technology
Worked on a new version of the bat algorithm and applied it to hyperparameter tuning of deep neural network models.

Teaching and Mentoring Experience

- **Teaching Assistant, Advanced Programming** Jan 2020 - Sep 2020
Department of Computer Engineering, Shiraz University of Technology
Supervised 30+ Students and graded their exercises.
- **Teaching Assistant, Artificial Intelligence and Expert Systems** Sep 2020 - Feb 2021
Department of Computer Engineering, Shiraz University of Technology
Supervised 30+ Students in virtual classes and solved their problems.
- **Teaching Assistant, Computational Intelligence** Mar 2021 - Aug 2021
Department of Computer Engineering, Shiraz University of Technology
Supervised 40+ Students and solved their problems.
- **Teaching Assistant, Algorithm Design** Mar 2021 - Aug 2021
Department of Computer Engineering, Shiraz University of Technology
Supervised 30+ Students in virtual classes and solved their problems.
 - Designed the programming exercises.

Honors and Awards

- Ranked 4th among all the computer engineering students.

Technical Skills

- **Programming languages and mathematical packages:** Matlab, C, C++, C#, Java (SE), Python, Tensorflow, Pytorch, Numpy, Pandas.
- **Computer aided design/engineering:** IntelliJ IDEA, Pycharm, Visual Studio, Weka.
- **Other:** Windows OS.

Languages

- **Persian:** Native
- **English:** Professional working proficiency

References

- **Geoffrey Fox, Professor**
Department of Computer Science, University of Virginia, USA
gcfexchange@gmail.com
- **Reza Akbari, Associate Professor**
Department of Computer Engineering, Shiraz University of Technology, Iran
akbari@sutech.ac.ir
- **Abdollah Kavousi-Fard, Associate Professor**
Department of Electrical and Electronic Engineering, Shiraz University of Technology, Iran
kavousi@sutech.ac.ir