SALEH SARGOLZAEI

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Objectives

- Integrating research in Machine Learning and Healthcare
- Working on the Machine Learning Theory
- Building computational models to demystify the human brain (Neural Decoding, MVPA)
- Facilitating human and computer interaction by incorporating Machine Learning

Education

Azad University of Mashhad, Bachelor's in Computer Engineering (Sep. 2018 - Feb. 2023)
- **Cumulative GPA:** 18.72/20 (equivalent to 3.76/4)
- **Total Credits:** 150.00
- **Thesis:** Cervical Vertebral Maturation (CVM) diagnosis using deep transfer learning (link to the published version: https://doi.org/10.3390/diagnostics13081485)
- **Advisers:** Dr. Shabnam Shadroo and Dr. Omid Moztarzadeh
- **Selected Coursework:** Fundamentals of Computer Vision (20/20), Fundamentals of Speech Signal Processing (20/20), Artificial Intelligence (19.75/20), Fundamentals of Computational Intelligence (20/20), Algorithm Design (18/20), Introduction to Robotics (20/20)

Publications

Journal Publications
- **Published (16 September 2023):** Jamshidi, M.B.; **Sargolzaei, S.**; Foorginezhad, S.; Moztarzadeh, O. Metaverse and Microorganism Digital Twins: A Deep Transfer Learning Approach. Applied Soft Computing, 2023, 110798, ISSN 1568-4946, https://doi.org/10.1016/j.asoc.2023.110798

- **Published (20 April 2023):** Moztarzadeh, O.; Jamshidi, M.B.; **Sargolzaei, S.**; Keikhaee, F.; Jamshidi, A.; Shadroo, S.; Hauer, L. Metaverse and Medical Diagnosis: A Blockchain-Based Digital Twinning Approach Based on MobileNetV2 Algorithm for Cervical Vertebral Maturation. *Diagnostics* 2023, *13*, 1485. https://doi.org/10.3390/diagnostics13081485

- **Published (7 April 2023):** Moztarzadeh, O.; Jamshidi, M.; **Sargolzaei, S.**; Jamshidi, A.; Baghalipour, N.; Malekzadeh Moghani, M.; Hauer, L. Metaverse and Healthcare: Machine Learning-Enabled Digital Twins of Cancer. *Bioengineering* 2023, *10*, 455. https://doi.org/10.3390/bioengineering10040455

Code and Data
- Metaverse and Microorganism Digital Twins: A Deep Transfer Learning Approach [Source Code and Data]. https://doi.org/10.24433/CO.4794344.v1

Teaching Assistant

- **Fundamentals of Deep Learning:** Teaching fundamental concepts, including loss functions, gradient descent, backpropagation, and how to implement them from scratch
- **Fundamentals of Computer Vision:** Teaching sessions on Deep Learning applications in computer vision using PyTorch
- **Advanced Programming:** Teaching freshman students programming topics, including the STL library of C++, Time Complexity, Graph Algorithms, and Introduction to Programming Contests

Honors and Awards

- One of the 106 recipients of the 2023-24 Vector Institute Scholarship in Artificial Intelligence
- Achieved the first rank among 137 computer engineering students admitted in September 2018
- Achieved twenty-second place in the 2020 ICPC Asia Tehran Regional Contest

Projects

- [A Review of Linear Algebra in Persian](#) (Based on the Machine Learning course, CS229, offered by Stanford)
- [Sentiment Analysis with a Vanilla Neural Network](#)
- [Generate Faces using Deep Convolutional Generative Adversarial Networks](#)
- [Landmark Tagging for Social Media](#)
- [Long short-term memory (LSTM) Model for Sentiment Analysis](#)
- [Deploy a PyTorch Model using AWS SageMake](#)
- [Introductory Tutorial to Feature Extraction from The Audio Signal (explained in Persian)](#)
- [Using Neural Networks to Predict Daily Bike Rental Ridership](#)
- [A Node.js Social Network Powered by Express](#)

Certification

- [Udacity, Deep Learning Nanodegree Program](#)
- [Neural Networks and Deep Learning](#)
- [Improving Deep Neural Networks: Hyperparameter Tuning, Regularization, and Optimization](#)
- [Structuring Machine Learning Projects](#)
- [Supervised Machine Learning: Regression and Classification](#)
- [Machine Learning Foundations: A Case Study Approach](#)
- [Machine Learning: Regression](#)

Technical Skills

- **Programming Languages:** Python, C++, Matlab, HTML, CSS
- **Frameworks:** PyTorch, TensorFlow
- **Software Libraries:** Scikit-learn, NumPy, Pandas, Matplotlib
- **Other:** Machine Learning, Competitive Programming, Team Work

English Language Proficiency

TOEFL iBT (September 07, 2022)
- Total: 106/120 | Reading: 26/30 | Listening: 29/30 | Speaking: 23/30 | Writing: 28/30

Volunteer Works

- Teaching English to Persian, Dari, and Pashto-speaking refugees and immigrants in [The International Women's Resource Center (IWRC)](#), based in Los Angeles, California (Oct. 2022 - Dec. 2022)
- Advisor of the university's scientific association for holding programming contests (Sep. 2021 - 2022)

References

Mohammad (Behdad) Jamshidi
- Ph.D. student at the University of Technology Sydney
- **Contact:** bmj.jmd@gmail.com

Fatemeh Keikhaee
- Assistant Professor at Zahedan University of Medical Sciences
- **Contact:** f.keikhaee@zaums.ac.ir

Mohammad Hossein Moattar
- Associate Professor at Azad University of Mashhad
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Omid Moztarzadeh
- Faculty of Medicine in Pilsen, Charles University
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