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 Google Scholar

BASIRA Lab
 Imperial-X (I-HUB)
 White City Campus
 Imperial College London
 London, UK

RESEARCH  **Medical Imaging**
 INTEREST  **Representation Learning**
 Deep Learning

 **Federated Learning**
 **Multimodal Language Model**
 Signal Processing

EDUCATION **Shahed University**
M.Sc. in Biomedical Engineering (First Class Honours)
 • Supervised by Prof. Ali Motie Nasrabadi

Tehran, Iran
 Aug. 2017 - Sep. 2020

University of Zanjan
B.Sc. in Electrical Engineering

Zanjan, Iran
 Jan. 2013 - Aug. 2017

INTERNSHIP **BASIRA Lab, Imperial College London**
 EXPERIENCE Research Intern

London, United Kingdom
 Sep. 2023 – Now

- Supervised by Prof. Islem Rekik
- Project: Federated Multi-Task Learning on Heterogeneous Medical Images

Fatima Fellowship

Research Fellow

Remote

Apr. 2023 – Dec. 2023

- Project: Medical Image Classification using Quaternion Convolutional Neural Networks

Bio-Imaging Lab, Antwerp University

Research Intern

Antwerp, Belgium

Aug. 2021 – Feb. 2023

- Supervised by Prof. Mahmood Amiri

Biological Signal Processing Lab, Shahed University

Research Assistant

Tehran, Iran

Aug. 2017 – Sep. 2020

Signal and Image Processing Lab, University of Zanjan

Research Assistant

Zanjan, Iran

Aug. 2016 – Aug. 2017

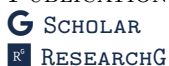
ValiAsar Hospital

Research Intern

Zanjan, Iran

Jan. 2016 – Sep. 2016

PUBLICATIONS **Preprints & Under Submission**



8. Multimodality Representation Learnings from Heterogeneous Data to Handle Missing Labels and Modalities
Atefe Hassani, Islem Rekik
 (Working Progress)

7. UniFed: A Universal Federation of a Mixture of Highly Heterogeneous Medical Image Classification Tasks


Atefe Hassani, Islem Rekik

Machine Learning in Medical Imaging (MLMI@MICCAI), 2024

 [arXiv](#)  [UniFed](#)  [Video](#)

6. Neuromarketing Dataset: Cognitive Movement and Decision-Making Based on Human Sexuality


Atefe Hassani, Amin Hekmatmanesh, Ali Motie Nasrabadi
Scientific Data, 2024 (*Under Submission*)

5. **Anodal HD-tDCS on the dominant anterior temporal lobe and dorsolateral pre-frontal cortex: clinical results in patients with mild cognitive impairment**
Soheila Rezakhani, Mahmood Amiri, Atefe Hassani, Vahid Sheibani, Khadijeh Esmaeilpour
Alzheimer's Research & Therapy, 2024
 Paper
4. **Gender Differences in EEG Responses to Color and Black-and-White Images: Implications for NeuroMarketing Strategies**
Atefe Hassani, Amin Hekmatmanesh, Ali Motie Nasrabadi
IEEE Access, 2023
 Paper
3. **The impact of selective and non-selective medial septum stimulation on hippocampal neuronal oscillations: A study based on modeling and experiments**
Nima Salimi-Nezhad, Stephan Missault, Anais Notario-Reinoso, Atefe Hassani, Mahmood Amiri, Georgios A Keliris
Neurobiology of disease, 2023
 Paper
2. **Discrimination of Customers Decision-Making in a Like/Dislike Shopping Activity Based on Genders: A Neuromarketing Study**
Atefe Hassani, Amin Hekmatmanesh, Ali Motie Nasrabadi
IEEE Access, 2022
 Paper
1. **Improved PPG-based estimation of the blood pressure using latent space features**
Atefe Hassani, Amir Hossein Foruzan
Signal, Image and Video Processing (SIVP), 2019
 Paper

HONORS

- | | |
|---|------|
| Full Scholarship for Fatima Fellowship
<i>Ranked amongst the top 20%</i>
<i>San Francisco, California, USA</i> | 2023 |
| TWINNIBS Bootcamp Scholarship
<i>Belgrade, Serbia</i> | 2023 |
| Full Scholarship for Oxford Machine Learning Summer School (MLx Health)
<i>University of Oxford, UK</i> | 2023 |
| Outstanding Researcher among Master Students
<i>Department of Engineering, Shahed University, Iran</i> | 2022 |
| AWS Machine Learning Foundation Scholarship
<i>Udacity</i> | 2021 |
| First-rank Graduate Amongst MSc Students
<i>Department of Engineering, Shahed University, Iran</i> | 2020 |

PROJECTS

- | | |
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| Highly Heterogeneous Multi-task Federated Learning
<i>A federated learning framework which is able to learn from a mixing highly heterogeneous medical image classification tasks, dataset, and imaging modalities by introducing a loss-guided dynamic and sequential model exchange between the server and client with an application for medical image classification.</i>
 <i>UniFed</i> | London, BASIRA Lab |
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AI or Not? AI-Generated Images Detector using Vision Transformers Fatima Fellowship

The pipeline of training a model to detect if images are generated by AI or not through Vision Transformers (ViT).

 *AI or Not*

Classification of Images Using Transfer Learning and Fine Tuning

This project classifies images by using transfer learning from a pre-trained network such as MobileNetV2.

 *Transfer Learning*

Detection of Parking Occupancy Using Deep Learning

This project aims to detect parking occupancy using ResNet-50 model for Training and validating the PKLot dataset implemented by TensorFlow, Keras, and scikit-learn library.

 *Parking Occupancy Detection*

TEACHING EXPERIENCE	Teaching Assistant, University College London (UCL) London, United Kingdom <i>COMP0173: AI for Sustainable Development</i> (Dr. Maria Perez Ortiz) 2023 – 2024
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	Teaching Assistant, University College London (UCL) London, United Kingdom <i>COMP0186: Foundation of Artificial Intelligence</i> (Dr. Sahan Bulathwela) 2023 – 2024
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SERVICES	Program Committee and/or Reviewer
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- PRIME@MICCAI 2024
- Journal of Big Data 2024

CERTIFICATES	<ul style="list-style-type: none">• Machine Learning Coursera Stanford University• Deep Learning Specialization Coursera deeplearning.ai• fMRI Introduction NI-edu Amestredam• fMRI Principle and Practice Sharif Neuroscience Symposium• Brain Signal Processing in Computational Neuroscience National Brain Mapping Laboratory (NBML)• Neuromarketing Workshop National Brain Mapping Laboratory (NBML)
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TECHNICAL SKILLS	<ul style="list-style-type: none">• Programming Languages: Python, MATLAB, C• Database Systems: SQLite, SQL Server, MongoDB• Medical Data Analysis Tools: EEGLAB, FSL, AFNI, fMRIPrep• Deep Learning Frameworks: PyTorch, PytorchGeometric, TensorFlow• Tools: Scikit-Learn, NumPy, SciPy, Pandas, Matplotlib, Seaborn, Web Scraping (Beautiful Soup)• Typesettings: Microsoft Office, LaTeX
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LANGUAGE SKILLS	<ul style="list-style-type: none">• Persian and Azerbaijani(Native)• English - IELTS Test Score taken in October 2024: 6.5• Turkish (Elementary)
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