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in AtefeHassani

🌐 Google Scholar

Atefe Hassani
Researcher

SUMMARY

Passionate about the interdisciplinary field of artificial intelligence and healthcare, aiming to improve the entire medical imaging workflow, especially the brain with significant impact for clinical use via machine intelligence.

RESEARCH INTEREST

• **Medical Data Analysis • Machine Learning • Deep Learning • Image Processing and Computer Vision • Graph Neural Network**

EDUCATION

Master of Biomedical Engineering
Shahed University

Aug '17 - Sep '20
Tehran, Iran

Biomedical Signal Processing and Machine Learning

- **Relevant Courses**
  - Biological System Modeling (A+), Biological Signal Processing (A+), Digital Signal Processing (A+), Pattern Recognition (B), Artificial Neural Network (B)
- **Thesis**
  - Like/Dislike analysis using EEG signals to predict future customer choices (4/4)
- **GPA**: 3.63/4

Bachelor of Engineering in Electrical Engineering
University of Zanjan

Jan '13 - Aug '17
Zanjan, Iran

Medical Data Analysis, Machine Learning, and Blood Pressure Estimation

- **Thesis**
  - Final year project: Estimation of Blood pressure and heart rate using (Electrocardiography) ECG and Photoplethysmography (PPG) signals by developing a new framework.
- **GPA**: 3.31/4

PROFESSIONAL EXPERIENCE

Visiting Researcher
Antwerp University

Aug '21 - Feb '23
Antwerp, Belgium

Supervisor: Porf. Mahmood Amiri

Medical Data Analysis
- Analysing electrophysiological recordings of rats (LFP) in the hippocampus (HPC) with and without stimulation of the cholinergic neurons in the medial septum.
- Investigating effectiveness of anodal HD-tDCS on the improvement of cognitive function among patients with MCI

Research Assistant
Shahed University

Aug '17 - Sep '20
Tehran, Iran

Supervisor: Prof. Ali Motie Nasrabadi

Biological Signal Processing Lab
- Recording Electroencephalography (EEG) signals of about 30 subjects
- Proposed a hierarchical method for removal of baseline drift from biological signals: application in ECG analysis
- Reproducing the MinMax k-Means clustering algorithm
- Reproducing and improving Prochazka's simple reflex model in the control of movement applications
- Reproducing the model with the aim of reproducing spiking and bursting behavior of known types of cortical neurons

Research Assistant
University of Zanjan

Aug '16 - Aug '17
Zanjan, Iran

Supervisor: Prof. Mostafa Charmi

Signal and Image Processing Lab
- Feature extraction from Electrocardiography (ECG) and Photoplethysmography (PPG) signals which are related to blood pressure

PUBLICATIONS

- <u>Atefe Hassani,</u> Amin Hekmatmanesh, Ali motie Nasrabadi. **Neuromarketing Dataset: Cognitive Movement and Decision-Making Based on Human Sexuality**, Scientific Data, nature, 2023. (Working Progress)

- <u>Atefe Hassani,</u> Amin Hekmatmanesh, Ali motie Nasrabadi. **Gender Differences in EEG Responses to Color and Black-and-White Images: Implications for Neuro-Marketing Strategies**, IEEE Access, Sep. 2023.
- Soheila Rezakhani, <u>Atefe Hassani,</u> Mahmood Amiri, Vahid Sheibani, Khadijeh Esmaeilpour. **Comparison of the Effect of High-Definition Anodal Transcranial Direct Current Stimulation on Dominant Anterior Temporal and Dorsolateral Prefrontal Cortex in the Treatment of Mild Cognitive Impairment Patients**, Alzheimer's Research & Therapy, 2023. (Under Review)
- Nima Salimi-Nezhad, Stephan Missault, Anaıs Notario Reinoso, <u>Atefe Hassani</u>, Mahmood Amiri, Georgios A. Keliris. **Modeling the Impact of Selective and non-Selective Medial Septum Stimulation on the Hippocampal Neuronal Oscillations**, Neurobiology of Disease, Feb. 2023.
- <u>Atefe Hassani</u>, Amin Hekmatmanesh, Ali motie Nasrabadi. **Discrimination of Customers Decision-Making in a Like/Dislike Shopping Activity Based on Genders: A Neuromarketing Study**, IEEE Access, Aug. 2022.
- <u>Atefe Hassani</u>, Amir Hossein Foruzan. **Improved PPG-Based Estimation of the Blood Pressure Using Latent Space Features**, Signal Image and Video Processing, Aug. 2019.

Honors and Awards

Full Scholarship for the Fatima Fellowship
Apr '23

Ranked amongst the top 20%

San Francisco, California, USA

Full Scholarship for the TWINNIBS Bootcamp
Apr '23

Belgrade, Serbia

Full Scholarship for Oxford Machine Learning Summer School (MLx Health)
Apr '23

University of Oxford, UK

Outstanding Researcher among Master Students
Nov '22

Department of Engineering, Shahed University, Iran

AWS Machine Learning Foundation Scholarship
Oct '21

Udacity

First-rank Graduate Amongst MSc Students
Sep '20

Department of Engineering, Shahed University, Iran

INTERNSHIP

Intern of Medical Equipment at the Hospital
Jan '16 - Sep '16

ValiAsr Hospital, Zanjan, Iran

CERTIFICATIONS

- Winner of AWS Machine Learning Foundation Scholarship | Udacity
- Machine Learning | Coursera | Stanford University
- Deep Learning Specialization | Coursera | deeplearning.ai
- Learning Python | Linkedin
- Learning Python | Jadi
- fMRI introduction course | NI-edu |Amestredam
- fMRI principle and practice |Sharif Neuroscience Symposium
- Brain Signal Processing and its Application in Computational Neuroscience |National Brain Mapping Laboratory (NBML)
- Neuromarketing Workshop **|** National Brain Mapping Laboratory (NBML)

WORK EXPERIENCES

Researcher
Jul '22

Virtual Manufacturing Inc.
California, USA

Bias and Fairness in Machine Learning and Recommender Systems

Thesis Co-supervision
Jan '20 - Aug '20

Shahed University
Tehran, Iran

Co-supervision of several bachelors' students

TECHNICAL SKILLS

• **Programming Languages: Python, MATLAB, and C**
• **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**

Language Skills

Persian (Native), Azerbaijani (Native), English (Professional proficiency), Turkish

References

Upon request.