

Research Interests

Natural Language Processing Reinforcement Learning Time Series Prediction
Social Network Analysis Data Mining

Education

M.Sc. in Computer Engineering, University of Tehran (2021 – 2024)
GPA: 16.98/20
Thesis: *Retweet Prediction using Graph Neural Networks and Representation Learning*
Supervisor: Dr. Masoud Asadpour

B.Sc. in Electrical Engineering, Amirkabir University of Technology (2016 – 2021)
Last 2 years GPA: 17.1/20
Supervisor: Dr. Mohammad Bagher Menhaj

Research Experience

Co-Founder, SofiaMind Chatbot, Iran (Sep 2023 – Mar 2025)
Co-founded sofiaMind, a platform utilizing LLMs to automatically answer customer queries. Integrated state-of-the-art natural language understanding techniques to deliver accurate, context-aware, and real-time responses.

Research Assistant, Health Sciences Research, Columbia University, USA (Jan 2024 – Present)
Mentor: Dr. Maryam Zolnoori
Focused on developing pipelines leveraging LLMs for clinical decision support as a diagnostic tool. Designed methodologies to optimize LLM integration for real-time clinical applications.

Research Assistant, Social Network Laboratory, University of Tehran, Iran (Oct 2021 – Sep 2024)
Developed a deep learning model for interaction prediction on Twitter (X) using structural embeddings from the follower graph and textual embeddings from user tweets.

Member of Executive Committee, Innovation Center of Amirkabir University, Iran (Mar 2019 – Dec 2020)

Software Engineer, Freelancer (Jan 2021 – Sep 2023)
Built and maintained the server-side infrastructure for multiple services and games using the Django Framework

Research and Development Intern, LuxinTech, Iran (Aug 2019 – Sep 2019)
Developed a program for controlling the surrounding and main lights of the house with low latency.

Publications

- **Deep Learning Approaches in EEG Analysis for Early Detection of Alzheimer’s Disease and Mild Cognitive Impairment: A Mini Systematic Review**
Authors: Tahoura Morovati, Hamed Vaezi*, Sepehr Karimi*, Mufti Mahmud, Mark Crook-Rumsey, Nadja Heym, David J Brown, Alex Sumich*
Published in: International Conference on Applied Intelligence and Informatics. (Accepted)
* Authors contributed to the manuscript equally.
- **PersianMedQA: Language-Centric Evaluation of LLMs in the Persian Medical Domain**
Authors: MohammadJavad Ranjbar Sepehr Karimi, Amirhossein Sheikholeslami, Dr. Heshaam Faili,
Published in: EMNLP 2025 (Submitted)
- **User Engagement Prediction on Online Social Media: Leveraging Graph Neural Networks for User Interactions on X**
Authors: Sepehr Karimi, Dr. Masoud Asadpour
Published in: Under preparation

Teaching Experience

- Advanced Algorithms (Chief TA), University of Tehran, Spring 2025, Instructor: Dr. Heshaam Faili
- Natural Language Processing, Spring 2024, University of Tehran, Instructor: Dr. Heshaam Faili
- Deep Neural Networks, Spring 2024, University of Tehran, Instructor: Dr. Ahmad Kalhor
- Social Networks, Spring 2024, University of Tehran, Instructor: Dr. Masoud Asadpour
- Statistical Inference, Spring, Fall 2024, University of Tehran Instructor: Dr. M. A. Dehaqani

Honors

Ranked 16th in the national PhD entrance exam for Iranian universities (2024)

Ranked within the top 0.1% in the national master entrance exam for Iranian universities (2021)

Ranked within the top 0.4% in the nationwide B.Sc. entrance exam (2016)

Skills

Programming/Scripting: Python, C/C++, R, MATLAB, SQL/NoSQL, \LaTeX

NLP/Data Tools: Pandas, Scikit-learn, NLTK, SpaCy, HF Transformers, TensorFlow, PyTorch

IDEs/Development Tools: Git, Docker, Jupyter Notebook, AWS

Soft Skills: Team Work, Problem-Solving, Time Management

Language Skills

English: Fluent - TOEFL: 104 (Listening: 29, Reading: 27, Speaking: 25, Writing: 23)

Persian: Native

References available upon request.