Mohsen Sorkhpour

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Github│Google Scholar│ResearchGate│LinkedIn

Summary

I am a machine learning (ML) researcher with over 10 years' experience across a range of technology stacks. My solid understanding of computer science fundamentals helps me see the big picture and bridge the gap between practical software engineering and advanced AI research. I focus on developing reliable and scalable AI powered systems that address real-world challenges.

Research Interests

- Machine Learning
- Natural Language Processing
- Trustworthy AI
- Multi-Agent System

Education

M.Sc. in Artificial Intelligence, Shahrood University of Technology (2020 – 2023)

Thesis title: Robust Federated Learning against Poisoning Attacks using Capsule Neural Networks.
GPA: 18.61 (out of 20)

B.Sc. in Software Engineering, Amir Kabir Technical University (National University of Skill) (2012 – 2016)
Project title: Forecasting the Tehran Stock Exchange using neural networks and time series.
GPA: 16.10 (out of 20)

Publication

1- RedHit: Adaptive Red-Teaming of Large Language Models via Search, Reasoning, and Preference Optimization (ACL - LLMSec2025)

2- Robust Federated Learning Approach against Poisoning Attacks using Capsule Neural Networks. International Journal of Engineering, 38(5), 1164-1179. doi: 10.5829/ije.2025.38.05b.17

3- Auto-CIDS: An Autonomous Intrusion Detection System for Vehicular Networks. (ACM-CCS) In Proceedings of the Workshop on Autonomous Cybersecurity (pp. 45-55).

Awards

Outstanding Paper Awards - LLMSEC 2025 for RedHit

Teaching Experience

- **Teaching Assistant for 'Reinforcement Learning' (**Feb 2022- Jun 2023)
  Presented by: Dr. Fateh, Shahrood University of Technology

- **Teaching Assistant for 'Deep Learning'** (Oct 2021- Jan 2022)
  Presented by: Dr. Fateh, Shahrood University of Technology
- **Teaching Assistant for 'Evolutionary computation' (**Oct 2021- Jan 2022)
  Presented by: Dr. Rahimi, Shahrood University of Technology
- **Teaching Assistant for 'Artificial Intelligence & Expert Systems' (**Oct 2021- Jan 2022)
  Presented by: Dr. Rahimi, Shahrood University of Technology

Licenses & Certifications

Neural Networks and Deep Learning offered by Deeplearning.ai
Convolutional Neural Networks offered by Deeplearning.ai
Deep Neural Networks with PyTorch offered by IBM
Fundamentals of Reinforcement Learning offered by University of Alberta

Selected Courses

- **Shahrood University of Technology Shahrood, Iran**

  M.Sc. in Artificial intelligence and robotics (2020 – 2023)
  - Machine Learning 20/20
  - Reinforcement Learning 20/20
  - Game Theory 20/20
  - Social network analysis (Graph Theory) 20/20
  - Fuzzy Systems 19.75/20
  - Artificial Neural Networks 18/20
  - Statistical Pattern Recognition 17/20

Skills

- **Programming Languages:** Python, C++, C#, JavaScript

- **AI frameworks:** Pytorch, Tensorflow, Transformers, Langchain, DSPy, Gymnasium, Scikit-Learn, Numpy, Pandas

- **Databases:** Vector Databases, MS-SQL, Elasticsearch, MongoDB

- **Web frameworks:** FastAPI, Asp.net, Angular, React

- **DevOps:** Docker, Kubernetes

- **Other Skill:** Git, TFS

Work Experience

ML/Software Engineer (2022 – *present)*

system group, Iran

- As a Software Engineer at System Group, I contribute to the development of Rahkaran, Iran's most comprehensive ERP solution. I have worked on key modules such as the Performance Management

System, Enterprise Communication Management, and a speech-to-text module. The tech stack I use includes Python, C#, JavaScript, SQL, ELK, ASP.NET, Whisper, and related tools.

Software Engineer (2019 – 2021)

[Rai Andish Shargh](#), Iran

- As a software engineer at Rai Andish Shargh, I was involved in the design and implementation of the Tehran Municipality Transportation Management System ([baraneh.tehran.ir](#)). I contributed to both the back-end, using C#, ASP.NET, and Entity Framework, and the front-end, utilizing JavaScript, jQuery, and Bootstrap. My work focused on developing robust features, optimizing system performance, and ensuring a seamless user experience.

Software Engineer (2018 – 2019)

[LimeOrder](#), Iran

- At LimeOrder, I contributed to the development of POS software for businesses such as restaurants, gas stations, coffee shops, and salons. My primary focus was on the front-end, leveraging React.js to build a highly maintainable and scalable system. I collaborated closely with the development team to ensure seamless integration with the back-end and create an intuitive, user-friendly experience.

Software Engineer (2016 – 2017)

[1st.ir](#), Iran

- As a software engineer at 1st.ir, I contributed to the development of a CRM system called PayamGostar. I focused on the back-end, working on building efficient services using C#, SQL, and Asp.net.

Full-Stack Developer (2014 – 2016)

Aris Rayane, Iran

- I worked as a software developer. I was involved with design and implementation of an enterprise resource planning system called Aris.