Mahsa Amani

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Research Interests

- **Large Language Models**
- **Natural Language Processing**
- **Deep Learning**

Education

Max Planck Institute for Software Systems (MPI-SWS)   *Saarbrücken, Germany*
Ph.D. in Computer Science   *Jun. 2024 - Present*
- Supervised by Prof. Krishna P. Gummadi

Sharif University of Technology (SUT)   *Tehran, Iran*
B.Sc. in Computer Engineering   *Sep. 2018 - Feb. 2023*
- GPA: 18.03/20

Farzanegan High School (National Organization for Development of Exceptional Talents (NODET))   *Tabriz, Iran*
Diploma in Mathematics and Physics   *Sep. 2011 - Jun. 2018*
- GPA: 19.97/20

Academic Honors

2022	**Gifted Student Award** Entrance exam waiver for graduate program, Sharif University of Technology	*Iran*
2018-2023	**Membership** In Iran's National Elites Foundation	*Iran*
2018	**Rank 51st** In Mathematics and Physics B.Sc. entrance exam among more than 144,000 participants	*Iran*
2017	**Accepted** In the First Exam of Mathematics Olympiad	*Iran*

Relevant Courses

Data Science	4/4
Natural Language Processing	20/20
Artificial Intelligence	20/20
Advanced Information Retrieval	19.3/20
Probability and Statistics	20/20
Data Structure and Algorithm	18.4/20

Languages

English	IELTS Overall Bandscore: 7.5 (🎧Listening: 9, 📖Reading: 7, 🎤Speaking: 6.5, ✏Writing: 6.5)
German	Elementary
Persian	Native Language
Azerbaijani	Mother Tongue

Certificates

📎 2023	**Generative AI with Large Language Models,** Andrew NG.	*DeepLearning.AI*
📎 2022	**Deep Learning Specialization,** Andrew NG.	*DeepLearning.AI*
📎 2021	**Introduction to Computer Vision and Image Processing,** IBM	*IBM*
📎 2021	**Machine Learning,** Andrew NG.	*Stanford University*
📎 2021	**Introduction to Git and GitHub,** Google	*Google*
📎 2021	**Natural Language Processing in TensorFlow,** Laurence Moroney	*DeepLearning.AI*
📎 2021	**Web Application Technologies and Django,** Charles Severance	*University of Michigan*
📎 2020	**Advanced Python Programming and Object-Oriented Thinking,** Quera	*Quera*

Publications

In Agents We Trust, but Who Do Agents Trust? Latent Source Preferences Steer LLM Generations

M. A. Khan, M. Amani, S. Das, B. Ghosh, Q. Wu, K. P. Gummadi, M. Gupta, A. Ravichander   *Jul. 2025*
- ICML 2025 Workshop on Reliable and Responsible Foundation Models

Rote Learning Considered Useful: Generalizing over Memorized Data in LLMs

Q. Wu, S. Das, M. Amani, B. Ghosh, M. A. Khan, K. P. Gummadi, M. B. Zafar *Jul. 2025*

• ICML 2025 Workshop on The Impact of Memorization on Trustworthy Foundation Models

Revisiting Privacy, Utility, and Efficiency Trade-offs when Fine-Tuning Large Language Models

S. Das, C. Kolling, M. A. Khan, M. Amani, B. Ghosh, Q. Wu, T. Speicher, K. P. Gummadi *Feb. 2025*

• ArXiv

Linguistic Resources and Transformer-based Models for the Machine Translations between Luri and Yazdi Dialects versus Standard Persian

M. Amani, M. Nouri, Z. Bahmani, M. Mirbeygi, N. Hashemi, E. Asgari, M. Soleymani Baghshah, H. Beigy, A. Movaghar *Feb. 2024*

• Journal of the Linguistics Society of Iran

The Language Model, Resources, and Computational Pipelines for the Under-Resourced Iranian Azerbaijani

M. Amani, M. Nouri, R. Zohrabi, E. Asgari *Sep. 2023*

• In Proceedings of AACL 2023 (Asia-Pacific ACL)

Skills

Programming </> Python, R, C/C++, JAVA, SQL, LaTeX

ML tools Pytorch, Tensorflow, Keras, Scikit-learn, Numpy, Pandas

Research Experience

Multigenerator, Multidomain, and Multilingual Black-Box Machine-Generated Text Detection

Iran

SemEval2024 *Dec. 2023 - Jan. 2024*

• Development of automatic systems to identify machine-generated text with the goal of mitigating its potential misuse

Pipelines for low-resource Iranian Languages

Iran

Research Assistant *Sep. 2022 - Dec. 2023*

• Developing pipelines for low-resource languages such as Azerbaijani, Luri, Yazdi, and Kurdi

A Large Language Model for Persian

Iran

Research Assistant *Oct. 2023*

• Development of a multilingual large language model fine-tuned for Persian

Explainable Detection of Online Sexism

Iran

SemEval2023 *Feb. 2023*

• Development of English-language models for sexism detection with fine-grained classifications for sexist content from Gab and Reddit

Work Experience

Teaching Assistant

Saarland, Germany

Max Planck Institute *Oct. 2025 - Feb. 2026*

• Efficient Training of Large Language Models: From Basics to Fine-Tuning , Prof. Krishna Gummadi

Junior Data Scientist

Tehran, Iran

Zarebin *Oct. 2022 - Apr. 2023*

• Developing a Shopping Information Retrieval System using Deep Learning Methods

Teaching Assistant

Tehran, Iran

Sharif University of Technology (SUT) *Sep. 2020 - Jul. 2023*

• Natural Language Processing, Dr. Ehsaneddin Asgari
• Probability and Statistics, Dr. Ali Sharifi
• Database Design, Dr. Abbas Heydarnoori
• Computer Architecture, Dr. Hossein Asadi
• Python Programming, Dr. Issa Moradnejad
• Digital System Design, Dr. Farshad Baharvand
• Digital Design, Dr. Laleh Arshadi

Junior Data Analyst

Tehran, Iran

Vivetennis *Jun. 2022 - Aug. 2022*

• Developing and Analysing Robot Monitoring System

Undergraduate Student Internship

Tehran, Iran

AIMedic *Jul. 2021 - Sep. 2021*

• Eye Disease Diagnosis using Artificial Intelligence

Attended Conferences and Workshops

2025   **Association for Computational Linguistics,** Vienna, Austria   *July 2025*

2025   **ACM International Conference on Web Search and Data Mining,** Hannover, Germany   *March, 2025*

Projects

Unveiling Hospital Cost Drivers   *Germany*

Explainable and Agentic AI Approach for Unveiling Hospital Cost Drivers   *Mar. 2025 - August. 2025*

Iranian Azerbaijani NLP Pipeline   *Iran*

The Language Model, Resources, and Computational Pipelines for the Under-Resourced Iranian Azerbaijani   *Jan. 2023 - May. 2023*

3D Vision Transformers and Convolutional Models for Segmentation Tasks   *Iran*

Bachelor's thesis on 3D MRI Brain Tumor Segmentation   *Jan. 2022 - Jan. 2023*

Azerbaijani to Farsi Translation   *Iran*

Developing JoeyNMT framework for translating Azerbaijani to Farsi using transformers and seq2seq models   *Jun. 2022*

Persian NER and Spell Corrector   *Iran*

Fine Tuning Bert model for Name Entity Recognition and language spell correction   *May. 2022 - Jun. 2022*

Persian QA Extractor   *Iran*

Extracting Questions and respective Answers from a text using Regular Expressions   *April 2022*

Turkish Preprocessing Pipeline   *Iran*

Developing a preprocessing pipeline for Turkish Language   *April 2022*

Modern Information Retrieval   *Iran*

A project including Indexing, Compressing, Query Correction, Language Models, Classifiers, and Clustering   *Feb. 2021*

TeleNurse   *Iran*

A Logistic Project For Providing Healthcare and Nursing implemented using Python Django, PostgreSQL, and Docker   *Nov. 2022*

Eye Disease Recognition   *Iran*

Recognition of 7 Eye Diseases using Transfer learning implemented as my Internship Project   *Sep. 2021*