Mahsa Amani

COMPUTER SCIENCE

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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*

Research Interests

- **Large Language Models**
- **Multi-Modal Models**
- **Natural Language Processing**
- **Deep Learning**
- **Machine Learning**

Relevant Courses

Natural Language Processing	20/20
Artificial Intelligence	20/20
Advanced Information Retrieval	19.3/20
Signals and Systems	20/20
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)
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

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

Iran

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, Published

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

Iran

M. Amani, M. Nouri, R. Zohrabi, E. Asgari

Sep. 2023

- In Proceedings of AACL 2023 (Asia-Pacific ACL), Published

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

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
- Operating Systems, 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

Projects

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