Mohammadamin Shafiei

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Education

Master's Degree in Human-centered Artificial Intelligence — Milan, Italy
The University of Milan — Sep. 2023 - Present

Bachelor's Degree in Computer Engineering — Tehran, Iran
Shahid Beheshti University — Sep. 2018 - Feb. 2023

- **Last two year's CGPA:** 18.3/20 (Overall CGPA: 16.97/20)
- **Bachelor Project Title:** Link prediction and similarity measurement in dynamic graphs using Autoencoders

Publications

Software Defect Prediction Using Visualization Techniques and CNNs — *(Co-author)* — Submitted
Under the supervision of Dr. Mojtaba Vahidi-Asl — Expert Syst. Appl.

- Developed a Deep Learning method to determine whether a program is faulty or not using visualization and Deep Learning techniques.
- Achieved **92.9%** accuracy.

Research Experience

Emotional Health Checking using LLMs — Oct. 2023 – Present
Under the supervision of Dr. Huang Yun — UIUC, Remote

- Worked on developing a LLM-based system that interacts with its users and has various features including emotional Health Checking.

NLP Applications in Psychology — Sep. 2023 – Present
Under the supervision of Dr. Mohammad Atari — UMass, Remote

- Engaged in exploring NLP applications within the field of Psychology, including the development of computational psychological tools and the compilation of Persian psychological datasets.

Link prediction and similarity measurement in Dynamic graphs — Jun. 2022 – Feb. 2023
Under the supervision of Dr. Sadegh Aliakbary — SBU, Tehran, Iran

- Predicted the links between the nodes of a dynamic graph using Autoencoders and RNNs.
- Proposed a model that predicts whether a graph is the next generation of another using Autoencoders and Siamese Networks.

Improving the performance Of Transformers — Jun. 2022 – Feb. 2022
IPM, Tehran, Iran

- Implemented Transformers in C language, Optimized them, and converted them to HDL.
- Achieved a significant improvement in the performance of Transformers.

Work Experience

AI Engineer — May. 2023 – Aug. 2023
Wallex — Tehran, Iran

- Developed an intelligent assistant for WALLEX users, helping them efficiently accomplish their cryptocurrency-related goals.
- Used ChatGPT in some parts of the assistant and engineered the prompts received by ChatGPT so that better results were achieved.

Back-end Engineer — Feb. 2023 – Sep. 2023
Behsa — Tehran, Iran

- Developed a monitoring system that reports the overall and detailed health status of the system.

Teaching Experience

Teacher Assistant — SBU, Tehran, Iran

- Embedded and Real time Systems — Fall 2022, Spring 2023
- Machine Learning — Fall 2022
- Fundamentals of Robotics — Spring 2022
- Microprocessors and Assembly Language — Spring 2021, Fall 2022, Spring 2022
- Computer Architecture — Spring 2021, Spring 2022
- Logic Circuits — Fall 2021
- Principles of Algorithms — Fall 2020

Skills

Languages: Persian (native), English (fluent, TOEFL ibt overall score: 99)

Programming Languages: Python, Java, C/C++, Matlab, x86 and Arm Assembly, SystemVerilog, VHDL

Frameworks/Libraries: Keras, Tensorflow, PyTorch, Pandas, NumPy, Scikit-Learn

Selected Projects

Audio Classification | *Python, Keras, librosa, sklearn* — 2023

- Trained a Neural Network model on MFCC features of audio files to detect the word that they contain.
- Employed audion augmentation techniques, like time shifting since the dataset was too small.

Next Frame Prediction | *Python, PyTorch, Pandas* — 2022

- Developed a model to predict the next frame of a series of GIFs using CNNs and LSTMs.
- Improved the overall loss compared to previous works.

Digikala Comments Classification | *Python, Keras, Scikit-Learn, Pandas, Hazm* — 2022

- Implemented a model to classify comments on products of an online shop into recommended or not recommended classes.
- Used a LSTM network, SGD classifier, and ensemble learning.

Robot Motion Planing | *Python, Webots* — 2021

- Implemented Bug algorithms to control the motions of a robot.

Future Sale Prediction | *Python, Pandas, NLTK, Numpy* — 2021

- A model that Predicts the next month's sale of a shop based on the last two years' data.
- Employed LightGBM, Linear Regression, Catboost algorithms, and ensemble learning.

AI-Driven Othello Game Agent | *Python, Tkinter* — 2021

- An AI-Driven agent implementation using the Minimax tree algorithm

A Food Ordering and Delivery Website Back-End | *Golang, MongoDB* — 2021

- Implemented features like ordering food, crating a restaurant, searching for specific foods, creating food categories and so on.

Selected University Courses

Graduate Courses

- Deeplearning | 4/4 — Spring 2022

Undergraduate Courses

- Fundamentals of Computer Vision | 4/4 — Fall 2022
- Fundamentals of Robotics | 4/4 — Fall 2021
- Internet Engineering | 4/4 — Spring 2021
- Artificial Intelligence and Expert Systems | 4/4 — Fall 2020
- Signals and Systems | 4/4 — Spring 2020
- Principles of Algorithms | 4/4 — Spring 2020

Honors & Awards

Ranked **1st** among 32 participants in the final project of the computational intelligence course. (Link) 2022

Online Courses

Natural Language Processing with Classification and Vector Spaces | Coursera Sep. 2021

How to Win a Data Science Competition: Learn from Top Kagglers | Coursera Jul. 2021

Introduction to Deep Learning | Coursera Feb. 2021

Introduction to Data Science in Python | Coursera Feb. 2021

Neural Networks and Deep Learning | Coursera Oct. 2021

Supervised Machine Learning: Regression and Classification | Coursera Sep. 2020

Advanced Python Programming | Quera Sep. 2020