

Amirmohammad Mahdavia



PROFILE

I am a medical student fascinated by the mind-bending complexity of life and its ultimate masterpiece: **intelligence**. With my background in biology and machine learning, I'm on an exciting journey to explore how intelligence, whether it's born from nature or crafted by humans, emerges, adapts, and evolves. I'm inspired by how life finds clever ways to adapt and improve. I am interested in a diverse topics of research and I am currently working on vision language models and applications of ML in healthcare industry.

EDUCATION

Tehran University of Medical Sciences (TUMS)

2020 - Expected 2027

Doctor of Medicine (MD)

EXPERIENCE

Machine learning developer

2023 - Present

- Freelancer
- NLP | CV | ULMs

Biology teacher

Sep 2020 - Dec 2022

- Biochemistry | Cellular & Molecular biology | Genetics | Biostatistics

PROJECTS

SPIDER | RSNA2024 competition

- Designed a pipeline using nnUNet for automatic segmentation of lumbar spinal MRI images, handling 35GB of DICOM and NIfTI formats, with deep knowledge of metadata extraction. Created slice-based pipelines, merging different modality images for better spatial information extraction.

DarooGAP | [HuggingFace](#)

- Developed a Persian-language Medicare chatbot powered by a Retrieval-Augmented Generation (RAG) framework. The dataset, meticulously curated from certified web sources, encompasses over 12,000 pharmaceutical questions and their corresponding answers. This chatbot delivers precise, context-aware responses, tailored to the unique needs of Persian-speaking users.

Dezhban | Restricted access (Available upon request)

- Built a hybrid model to identify suspected fraudulent drug prescriptions and claims using supervised and unsupervised learning algorithms. Using >20 specific algorithms it is capable of analyzing a large amount of data, it examines data distribution patterns, relationships between types of variables and their fluctuations over time, and identifies population subgroups based on commonalities analysis.

SKILLS

Languages: Python | C++

Frameworks: PyTorch | Transformers | TensorFlow | Keras | timm | CUDA | Ollama | LangChain | LlamaIndex | Scikit-learn | XGBoost | Numpy | Pandas | Plotly | Matplotlib

Medical Imaging: MONAI | SimpleITK | Pydicom

Tools: Git | MongoDB | Streamlit | Jupyter

AWARDS

Iran Biology Olympiad (IrBO)

2019

Silver medal

Iran Stem Cell And Regenerative Medicine Olympiad (ISRO)

2019

Top 0.1% nationally

National Olympiad of Entrepreneurship and Technological Startups

2024

Bronze medal

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