

Kiarash Mokhtari

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 (+98) 938-139-5696  mokhtarikiarash@gmail.com  [Linkedin](#)  github.com/Kiarashmo

Research interests

- Machine Learning
- Natural Language Processing
- Optimization
- Bioinformatics
- Secure and Trustworthy AI
- Computer Vision

Education

Amirkabir University of Technology - Tehran Polytechnic

Bachelor of Science in Computer Science, GPA: 3.83/4

Sep. 2019 – Jun. 2024

- Dissertation: Optimizing Drug Candidates using WGAN with Gradient Penalty and NSGA-II Algorithm for Feedback Loop Mechanism, Grade: 19.5/20 (A+)

Publications

H. Kazemzadeh, M.R. KarimiNejad, **K. Mokhtari Dizaji**, S. Ahmadi, B. Khalaj, M.H. Rohban, A. Akbari, et al. (2025) **Drug Language Models for Clinical Pharmacy: Benchmarking Large Language Models and Knowledge-Augmented Reasoning on NAPLEX-Style Questions**. *American Journal of Pharmaceutical Education*. (Submitted)

F. Davanian, I. Adibi, M. Tajmirriahi, **K. Mokhtari Dizaji**, F. Sedighin, H. Rabbani, et al. (2025). **Diagnosing MS from MRI Images: Highlights from the Second IAI Event 2024**. *Journal of Medical Signals & Sensors*. (Submitted)

S.H. Alavi, **K. Mokhtari Dizaji**, F. Zare-Mirakabad. **MolEval: A Framework for Comparative Evaluation of Molecular Embedding Strategies**. (In preparation)

Research Experience

Research Assistant

Sharif University of Technology Computational Biology Lab


May. 2025 – Present

- Building drug language models and LLMs to aid clinical decisions, prescription safety, and patient communication.
- Exploring deep learning methods for drug-target modeling to support pharmacological research and discovery.

Research Assistant

Computational Biology Research Center (CBRC) | Supervisor: Dr. Fatemeh Zare-Mirakabad

Jun. 2023 – Apr. 2025

- Focusing on the optimization of drug candidates using Generative Adversarial Networks (GANs) and Transformers.
- Fine-tuned transformers using MLM and contrastive learning for molecular classification. |  [Github](#)

Projects

Film-Buff Chatbot: GenAI-Powered Movie Assistant |  [Kaggle](#)

Apr. 2025

- Developed a chatbot using RAG, Gemini APIs, and vector search for real-time movie recommendations.

Apnea Detection from Tracheal Sounds using ResNet |  [Github](#)

Sep. 2024

- Designed a Custom ResNet model to detect apnea from tracheal sounds, achieving 80% accuracy.

Multiple Sclerosis(MS) Lesion Detection in MRI Images using UNETR Model

Aug. 2024

- Implemented the UNETR model to enhance MS lesion segmentation in 3D MRI images, achieving high precision and improving diagnostic reliability.

Stroke Motor-Imagery Classification via Transfer Learning |  [Github](#)

Jul. 2023

- Used EEGNet for decoding Motor Imagery (MI) from EEG. Achieved 90% accuracy by leveraging healthy subjects data. Optimized for stroke patients using transfer learning.

Relevant Courseworks

- Artificial Intelligence | A+
- Data Mining | A+
- Data Structures & Algorithms | A+
- Design & Analysis of Algorithms | A+
- Image Processing & Neural Networks | A+
- Linear Optimization | A+
- Numerical Linear Algebra | A+
- Neuromatch Deep Learning course | [Certificate](#)
- Google Generative AI Course | [Certificate](#)
- Stanford CS229: Machine Learning

Honors & Awards

- Awarded **1st place** in IAI 2024 among 73 teams on MS segmentation using MRI FLAIR images, under [Dr. Zahra Ghorbanali](#)'s guidance.(Oct. 2024)
- Listed among the **top 10%** of my peers at Amirkabir University of Technology in Computer Science.(Sep. 2023)
- Ranked in the **top 1%** in the Iranian University Entrance Exam, also known as Konkour.(Sep. 2019)
- Secured **1st position** among high school teams and ranked **6th** among 20 university teams in **Iranopen** for 2D soccer simulation league.(May. 2017)

Teaching Experience

Teaching Assistant

• Data Mining Instructor: Dr. Fatemeh Shakeri	Feb. 2024 – Jul. 2024
• Artificial Intelligence Instructor: Prof. Mehdi Ghatee	Sep. 2023 – Jul. 2024
• Image Processing and Neural Networks Instructor: Dr. Mostafa Shamsi	Feb. 2023 – Jan. 2024
• Principles of Computer Systems Instructor: Dr. M. Hassan Shirali-Shahreza	Sep. 2023 – Jan.2024
• Introduction to Basic Programming with Python Instructor: Dr. Zahra Ghorbanali	Sep. 2023 – Jan.2024
• Advanced Programming with C++ Instructor: Dr. Mohammad Mahdi Bejani	Feb. 2023 – Jul. 2023
• Introduction to Logic and Set Theory Instructor: Dr. Massoud Pourmahdian	Feb. 2023 – Jul. 2023

Technical Skills

Programming Languages: Python, C++, C, R, Javascript, Rust, SQL, HTML5/CSS3

Tools & Technologies: Linux, Git & Github, \LaTeX , Pycharm, Jupyter, Anaconda

ML/DL Frameworks & Libraries: Pytorch, Tensorflow, Keras, GLPK, RDkit, Numpy, Pandas, OpenCV, Matplotlib, Seaborn, Scipy, Scikit-Learn, Google GenAI API

Languages & Test date

English: TOEFL(IBT) (6 Jan. 2024): 94 (R:25 L:26 S:22 W:21)

Persian: Mother tongue

Turkish: Mother tongue

Volunteering works

- Lecturer at the 3rd Student Symposium of the Iranian Bioinformatics Society (2025) | [Certificate](#)
- Technical Team Member for International Conference on Artificial Intelligence and Smart Vehicles (2023) | [Webpage](#)