Amir Mohammad Ezzati

⚲ Department of Computer Engineering, Sharif University of Technology, Tehran, Iran ☎ +98 935 250 75 22
✉ iamirezzati@gmail.com 🔗 amirezzati 🔗 amirezzati 🔗 amirezzati.com

EDUCATION

Sharif University of Technology   Tehran, Iran
M.S. in Computer Engineering, Minor in Artificial Intelligence and Bioinformatics   *Sep 2023 – Present*

- GPA: 18.47/20 (4.0/4.0)

University of Guilan   Rasht, Iran
B.S. in Computer Engineering   *Sep 2019 – Aug 2023*

- GPA: 19.26/20 (3.91/4.0)
- Rank 2 among 68 students of the 2019 computer engineering entries.

RESEARCH INTEREST

- ❯ Machine Learning
- ❯ Deep Learning
- ❯ Computer Vision
- ❯ Medical Image Analysis
- ❯ OOD Generalization
- ❯ Self Supervised Learning
- ❯ Machine Learning Safety

Relevant Coursework

- Deep Learning
- Machine Learning
- Natural Language Processing
- Intelligent Analysis of Biomedical Images
- Security and Privacy of Machine Learning
- Artificial Intelligence

RESEARCH EXPERIENCE

Graduate Research Assistant   Sharif University of Technology
Robust and Interpretable Machine Learning lab(RIML lab)   *Sep 2023 - Present*
Superviser: Dr. MH Rohban

- Out-of-Distribution generalization in histopathology images
- Osteoporosis risk factors estimation   Collaboration with Tehran University of Medical Sciences
- Renal cancer detection and classifying type of tumors   Collaboration with Iran University of Medical Sciences

Undergraduate Research Assistant   University of Guilan
Machine Learning reseaarcher   *Oct 2022 - Oct 2023*
Supervisor: Dr. SA Mirroshandel

- Data-Efficient human sperm abnormality detection using Uncertainty Sampling(Active Learning)
- Human sperm abnormality detection using Meta-Learning(MAML approach)
- Producing the plural of Arabic singular words

TEACHING EXPERIENCE

Sharif University of Technology
Teaching Assistant

- Machine Learning   Dr. Sharifi Zarchi — Fall 2024
- Intelligent Analysis of Biomedical Images   Dr. Rohban — Fall 2024

University of Guilan
Teaching Assistant

- Microelectronic Circuits   Dr. Aminian — Winter 2023
- Artificial Intelligence   Dr. Boreshban — Fall 2022
- Digital Circuits   Dr. Aminian — Fall 2022
- Advanced Programming (in Java)   Dr. Mirroshandel — Winter 2022

Projects

Data-Efficient human sperm abnormality detection using Uncertainty Sampling May 2024 - Sep 2024
- (Active Learning)
- GitHub

Retrieval Augmented Generation with LLMs to Detect DSM-5 Disorders July 2024
- The project focuses on improving LLM models to accurately detect psychological disorders by using a RAG (Retrieval-Augmented Generation) pipeline, with the DSM-5 as the reference for retrieval.
- GitHub

Brain MRI Segmentation using Diffusion Probabilistic Model Feb 2024
- This project implements a DPM-based model for brain tumor segmentation over MRI images based on "MedSegDiff: Medical Image Segmentation with Diffusion Probabilistic Model" paper.
- GitHub

Graph-Level Classification of Histopathology Images using Graph Neural Network Dec 2023
- This project implements nuclei extraction from histopathology images, a GCN model for node embeddings, and a GCN-based graph prediction model with global pooling for graph-level embeddings.
- GitHub

Breast Cancer Classification using Multiple Instance Learning Dec 2023
- This project employs an attention-based deep multiple instance learning architecture to classify and localize histopathology images at different magnification levels as benign or malignant tumors.
- GitHub

Human Sperm Abnormality Detection using Meta-Learning Jun 2023 - Dec 2023
- This project uses the MAML algorithm with Learn2Learn and PyTorch to create a meta-learning model that performs well on three tasks: sperm head, acrosome, and vacuole abnormality detection.
- GitHub

Technical Skills

Programming Languages: Python, Java, C++, PHP, SQL (Postgres)
ML Frameworks: PyTorch, TensorFlow, Scikit-learn, Keras
Libraries: Pandas, NumPy, Matplotlib, Seaborn, OpenCV, librosa, Hugging Face
Developer Tools: Git, Github, VS Code, Google Colab, Kaggle, Visual Studio, PyCharm, IntelliJ
Web Development: Django, Laravel, React, HTML/CSS, JavaScript

Honors and Awards

Highly Ranked in Bachelor of Computer Engineering July 2023
- Highly ranked among 68 students of the 2019 computer engineering entries at University of Guilan

Highly Talented Student Admission Apr 2023
- I was admitted to the Master's degree program in Computer Engineering with a focus on Artificial Intelligence and Bioinformatics at Sharif University of Technology. I was also accepted into other programs and universities but withdrew due to my strong passion for this field.

Tuition Waiver, B.Sc, University of Guilan Sep 2019

Certifications

Deep Learning | Stanford University and DeepLearning.AI | Verification Nov 2022
- Instructor: Andrew Ng

Reinforcement Learning | University of Alberta | Verification Sep 2022
- Instructor: Martha White, Adam White

Machine Learning | DeepLearning.AI | Verification Sep 2022
- Instructor: Andrew Ng