Alireza Ghafouri

✉ alirezaghafouri77@gmail.com   in alirezaghafouri
🌐 alireza-ghafouri.github.io   ⌗ Alireza-Ghafouri

Education

M.Sc. in Computer Engineering - Artificial Intelligence   *University of Tehran*
Master's degree program   *Sep 2021 – Sep 2024*
Thesis: Semi-Supervised representation learning using deep generative models
Supervisors: Dr. Reshad Hosseini , Dr. Mostafa Tavassolipour
Final Grade: 19.30/20 (4/4), **Ranked 2nd**

B.Sc. in Computer Engineering   *University of Kashan*
Bachelor's degree program   *Sep 2017 – Sep 2021*
Final grade: 18.33/20 (3.7/4), **Ranked 2nd**

High school in Mathematics and Physics   *NODET*
Diploma of Mathematics and Physics   *Sep 2013 – Sep 2017*

Research Interests

✓ **Computer Vision**   ✓ **Generative Models**   ✓ **Trustworthy AI**   ✓ **Multimodal Learning**

Research Experience

Computational Audio-Vision Lab (Website)   *Jul 2023 – Present*
Research Advisers: Dr. Reshad Hosseini , Dr. Mostafa Tavassolipour   *University of Tehran*

- Explored diverse classes of deep generative models and their specific applications, with a particular emphasis on their relevance in computer vision.
- Conducted research on robust representation learning, emphasizing a semi-supervised approach.

Neural marketing using eye movements Prediction (Website)   *Jan 2023 – Jun 2023*
Research Adviser: Dr. Ramin Toosi   *Avir Artificial Intelligence Center*

- Researched video saliency prediction models and evaluated their performance on proprietary datasets.
- Conducted research on the cognitive aspects of customer shopping behavior.

Recommendation Systems (Seminar Report)   *Sep 2022 – Mar 2023*
Research Advisers: Dr. Abdol-Hossein Vahabie , Zahra Ebrahimian   *University of Tehran*

- Conducted research and literature review on various recommendation systems, focusing on video data.

Publications

Robust representation learning using VAE in semi-supervised setting   *Draft under preparation*
Alireza Ghafouri, Reshad Hosseini, Mostafa Tavassolipour   *University of Tehran*

Honors & Awards

NMA Admission	Served as TA and Lead TA at Neuromatch Academy	*2023 & 2024*
Ranked 2nd	The master's degree program	*2024*
Ranked 19th	National Master's Entrance Exam	*2021*
Ranked 10th	Student Scientific Olympiad of the country	*2021*
Ranked 2nd	The bachelor's degree program	*2021*
Exceptional Talents	Awarded as a Distinguished Student by The University Committee	*2021*
Straight M.Sc. Admission	Offered by three top universities for exceptional talent	*2021*
Tuition Fee Exemption	Bachelor & Master's level studies	*2017 & 2021*
Among the top 2%	National Universities Bachelor's Entrance Exam	*2017*

Selected Courses

• **Machine learning**	20/20 (4/4)	• **Data Analysis**	19/20 (4/4)
• **Deep Learning and Applications**	19.25/20 (4/4)	• **Statistical Inference**	18/20 (4/4)
• **Natural Language Processing**	18.40/20 (4/4)	• **Reinforcement Learning**	20/20 (4/4)
• **Artificial Intelligence**	19.50/20 (4/4)	• **Computational Intelligence**	20/20 (4/4)

Teaching Experience

Machine Learning (TA) - (Youtube1, Youtube2) — *Spring 2022, 2023*
Dr. Mohammadreza Abolghasemi, Dr. Mostafa Tavassolipour — *University of Tehran*

Artificial Intelligence (Head TA) — *Spring 2022*
Dr. Hossein Ebrahimpour — *University of Kashan*

Deep Learning and Applications (TA) — *Spring 2023*
Dr. Reshad Hosseini — *University of Tehran*

Computational Neuroscience (TA) - (Certificate) — *Summer 2023*
Global collaboration — *Neuromatch Academy*

Deep Generative Models (TA) — *Fall 2023*
Dr. Mostafa Tavassolipour, Dr. MohammadAmin Sadeghi — *University of Tehran*

Statistical Inference (TA) — *Fall 2023*
Dr. Mohammadreza Abolghasemi — *University of Tehran*

Natural Language Processing (TA) — *Spring 2024*
Dr. Javad Salimi Sartakhti — *University of Kashan*

Trustworthy AI (TA + Guest Instructor) — *Spring 2024*
Dr. Mostafa Tavassolipour — *University of Tehran*

Computational Neuroscience (Lead TA) - (Certificate) — *Summer 2024*
Global collaboration — *Neuromatch Academy*

Academic Projects

Deep Learning and Applications — *Spring 2022*
Dr. Reshad Hosseini — *University of Tehran*
- Deep fully connected neural network implementation(from scratch using numpy)
- Saliency map prediction using deep neural networks
- Implementation of a deep fully connected network for inverting visual representations of a CNN
- Medical image segmentation Using U-net architecture
- Part of speech tagging for Persian Language using deep recurrent model

Natural Language Processing — *Spring 2022*
Dr. Heshaam Faili, Dr. Yadollah Yaghoobzadeh — *University of Tehran*
- Applying Naive Bayes classification for Spam and Truth detection.
- Conducting POS tagging and Named Entity Recognition (NER) tasks on the Penn Treebank dataset.
- Executed multilingual classification and Persian NLI tasks with BERT-based models.
- Performing question-answering task on a Persian dataset using a BERT-based model.

Data Analysis — *Fall 2021*
Dr. MohammadAmin Sadeghi — *University of Tehran*
- Analysing Corona virus infection
- Scraping Alibaba and MrBilit tickets and analysing the prices
- Web crawling and data cleaning: Obtaining Laptop Listings from Digikala

Social Networks — *Fall 2022*
Dr.Masoud Asadpour — *University of Tehran*
- Persian Users' Graph of Tweets Network Analysis in Iran's 2022 Protests

Skills

Programming	Python (Pytorch, Tensorflow, Pandas, NumPy, Scikit-Learn, Matplotlib, NLTK, etc.), R, SQL
Soft Skills	Leadership, Team Work, Problem Solving, Time Management, Adaptability/Flexibility
Languages	Persian (Native), English (C1 - TOEFL IBT Overall best Score: 106 (Reading: 27, Listening: 26, Speaking: 25, Writing: 28) - last Score: 104 (R: 27, L: 26, S: 23, W: 28)

References

Dr. Reshad Hosseini
📍 University of Tehran
✉ reshad.hosseini@ut.ac.ir

Dr. Javad Salimi Sartakhti
📍 University of Kashan
✉ salimi@kashanu.ac.ir

Dr. Ramin Toosi
📍 University of Tehran
✉ r.toosi@ut.ac.ir