Ali Khoramfar

Department of Electrical & Computer Engineering, University of Tehran, Iran

Alikhorramfar@gmail.com LinkedIn GitHub Google Scholar

Research Interests

• Natural Language Processing • Deep Learning • Multimodal Learning

Education

University of Tehran *2023 – Present*

Master of Science in Computer Engineering

- **GPA: 19.33/20** (4/4)
- **Relevant Courses:** Natural Language Processing, Deep Learning, Machine Learning, Social Networks, Statistical Inference, Distributed Machine Learning.
- **Master's Thesis** (Supervisors: Prof. Heshaam Faili - Prof. Mohammad Javad Dousti):
  - **Title:** Investigating the Performance of Multimodal Large Language Models for Medical Image Analysis
  - **Summary:** Investigating how multimodal LLMs perform on complex reasoning tasks and multilingual settings, with medical image analysis employed as a representative application.

JundiShapur University of Technology *2017 – 2022*

Bachelor of Science in Computer Engineering

- **GPA: 19.11/20** (4/4)
- **Ranked 1st** among all Computer Engineering students
- **Relevant Courses:** Artificial Intelligence and Expert Systems, Image Processing, Internet Engineering, Microprocessors, Principles of Database Design
- **Bachelor's Project** (Supervisor: Dr. Maryam Chinipardaz):
  - **Title:** Green Internet of Things and Solar Energy
  - **Summary:** Designed a five-layer architecture to optimize IoT energy efficiency and investigated solar-powered solutions for sustainable deployment.

Academic Papers

Journal Papers

- *Green Internet of Things and Solar Energy*
  Chinipardaz, M., Khoramfar, A., & Amraee, S. (2024). Environmental Science and Pollution Research, *31*(12), 18296–18312. [DOI]

Under-Review Papers

- *PerMed-MM: A Multimodal, Multi-Specialty Persian Medical Benchmark for Evaluating Vision Language Models*
  Khoramfar A., Dousti M. J., & Faili H. (Under review at AACL 2025)

Under-Preparation Papers

- *From Machine Learning to Vision-Language Models: A Comprehensive Comparative Study for MRI-Based Brain Tumor Differentiation*
  Khoramfar A., Mohamadian A., & Dousti M. J.
- *DeepQuestion: Systematic Generation of Real-World Challenges for Evaluating LLM Performance*
  Khoramfar A., Ramezani A., Mohajeri M. M., Dousti M. J., Nili Ahmadabadi M., & Faili H.
- *Vision-Language Models for Agriculture: A Multilingual Framework for Plant Disease Recognition*
  Ashouri Sefat S., Khoramfar A., & Amini S.

Conference Papers

- *Network Level Energy Solutions for Green Internet of Things*
  Khoramfar A., & Chinipardaz M. (2023). First National Conference on Internet of Things.
- *Green Computing Solutions in Environmental Protection and Use of Renewable Energy*
  Amraei S., & Khoramfar A. (2021). National Conference on Chemical Engineering & Nanotechnology (in Persian).
- *The Role of IoT in Innovation and Business Development*
  Khoramfar A., & Chinipardaz M. (2021). First National Conference on Entrepreneurial Universities (in Persian).

Research Experiences

Graduate Student Researcher, University of Tehran *2023 – Present*
Natural Language Processing Laboratory

- Contributed regularly to weekly meetings with advisors and lab members, including project discussions, paper reviews and reading group sessions.
- Mentored new students entering research, providing guidance on defining projects and adopting academic research practices.

Undergraduate Research Assistant, JundiShapur University *2020 – 2022*
Computer Networks Laboratory

- Engaged in research on energy-efficient computing.
- Conducted literature reviews and collaborated on writing and revising research manuscripts.

Teaching Experience

Essential Computing Skills – Head TA *Jan 2025 – Present*
Supervisor: Prof. Mohammad Javad Dousti

- Coordinated course logistics, including schedule management and preparation of course materials.
- Assisted with grading and facilitated technical workshops on Vim, Git, Docker and Kubernetes.

Natural Language Processing – TA *Aug 2024 – Feb 2025*
Supervisor: Prof. Heshaam Faili

- Assisted in assessment design and grading and developed a project on Vision-Language Models (CLIP), introducing students to multimodal embeddings, similarity analysis and bias evaluation in pre-trained models.

Deep Learning – TA *Aug 2024 – Feb 2025*
Supervisor: Dr. Ahmad Kalhor

- Designed and supervised a course project introducing students to Vision Transformers, including data preprocessing, transfer learning, fine-tuning strategies and comparative evaluation with CNN architectures.

Internet Engineering – TA *Sep 2021 – Jan 2022*
Supervisor: Dr. Maryam Chinipardaz

- Delivered technical workshops on web hosting and search engines, covering hosting configuration, domain management, deployment, indexing, ranking algorithms and SEO optimization practices.

Academic Projects

Distributed Machine Learning [GitHub] *Sep 2024 – Jan 2025*
Supervisor: Prof. Mohammad Javad Dousti

Natural Language Processing [GitHub] *Jan 2024 – Jul 2024*
Supervisor: Prof. Heshaam Faili

Deep Learning [GitHub] *Jan 2024 – Jul 2024*
Supervisor: Dr. Ahmad Kalhor

Machine Learning [GitHub] *Jan 2024 – Jul 2024*
Supervisor: Dr. Tavassolipour

Statistical Inference [GitHub] *Sep 2023 – Jan 2024*
Supervisor: Dr. A. Dehaqani

Cinema and Theater Ticket Reservation System [GitHub] *Jul 2022*
Supervisor: Dr. Mousazadeh

Normalization of Context-free Grammars [GitHub] *Jul 2021*
Supervisor: Dr. Enayatzare

Technical Skills

Programming: Python (PyTorch, scikit-learn, NumPy, Matplotlib, Pandas, PySpark), C++, C#, SQL
Tools and Frameworks: PyTorch Distributed, Hugging Face (Transformers, Datasets, PEFT), LangGraph, Git, MPI, Slurm

Languages

English: Professional Working Proficiency
Persian: Native