

# Ali Khoramfar

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## Research Interests

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• Natural Language Processing • Vision-Language Models • Multimodal Learning

## Education

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### 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

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### 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.
- *PlantSee: Cross-Lingual Vision–Language Assistant for Plant Disease Diagnosis*  
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

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### 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 Experiences

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### Essential Computing Skills – Head TA

Jan 2025 – Sep 2025

#### 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 pre-processing, 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

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### 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

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**Programming:** Python (NumPy, Pandas, Matplotlib, scikit-learn, PySpark), C++, C#, SQL

**Frameworks:** PyTorch Distributed, Hugging Face (Transformers, Datasets, PEFT), LangGraph, Unsloth

**Tools:** Git, MPI, Slurm

## Languages

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**English:** Professional Working Proficiency

**Persian:** Native