

Mohammad Javad Ranjbar

University of Tehran

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Research Interests

Conversational AI | Large Language Models | Multimodal AI | Controllable Generative Models |
Speech Synthesis & Processing

Education

University of Tehran

Master of Science in Computer Software Engineering, *GPA: Perfect 4.0/4.0 (19.07/20)*

Tehran, Iran

2022–2025

Thesis: Zero-Shot Text-to-Speech for Persian Language

Supervisors: Dr. Azadeh Shakery & Dr. Heshaam Faili

Curated the largest Persian speech dataset comprising over 3,800 hours of multi-speaker audiobooks and podcasts. Implemented advanced ASR systems and multiple alignment models to extract high-accuracy transcriptions with precise audio-text alignment. Fine-tuned XTTs and Whisper models for Persian language, achieving 3.6/5.0 MOS (Mean Opinion Score).

Amirkabir University of Technology

Bachelor of Science in Electrical Engineering, *Last 2 Years GPA: 3.64/4.0*

Tehran, Iran

2016–2021

Thesis: Facial Expression Recognition with Robotic Implementation

Supervisors: Dr. M.B. Menhaj & Dr. H. Taheri

Designed and implemented an intelligent personal assistant system on a low-cost robot. Integrated advanced facial expression recognition for real-time emotion detection, coupled with multimodal interaction capabilities including gesture-based responses, context-aware music selection, and speech command processing.

Publications

2026: **M.J. Ranjbar**, Mohammad Amini, Parmis Bathaeian, Zhengjun Yue, H. Faili, A. Shakery. *PARSA-Bench: A Comprehensive Persian Audio-Language Model Benchmark*. Under preparation for submission to the Interspeech 2026.

2026: **M.J. Ranjbar**, A. Shakery, H. Faili. *PersianPunc: Neural Punctuation Restoration for Persian Speech Recognition and Text Processing*. Under review at EACL SilkRoadNLP Workshop.

2025: **M.J. Ranjbar**, H. Faili, A. Shakery. *ParsVoice: A Large-Scale Multi-Speaker Persian Speech Corpus for Text-to-Speech Synthesis*. Under preparation for submission to the Interspeech 2026.

2025: **M.J. Ranjbar**, A.H. Sheikh, S. Ranjbar, S. Karimi, A. Shakery, H. Faili. *PersianMedQA: Evaluating LLMs on a Persian-English Bilingual Medical Question Answering Benchmark*. Under review at LREC 2026.

2022: **M.J. Ranjbar**, M.B. Menhaj, H. Taheri. *Social Robots: An Open-Source Framework for Personal Assistant Robots*. ICRoM 2022.

Technical Skills

- **Deep Learning Frameworks:** PyTorch, TensorFlow, Transformers (HuggingFace), peft
- **Programming & Tools:** Python (Expert), R, C++, MATLAB, Git, Docker, L^AT_EX
- **Specialized Libraries:** librosa, espnet, fairseq, speechbrain, datasets, evaluate
- **Languages:** Persian (Native) – English (Fluent — TOEFL iBT: 103/120 [R: 29, L: 29, S: 23, W: 22])

Professional Experience

EPFL NLP Lab

Research Intern

Lausanne, Switzerland

Mar 2026–Aug 2026

Working under the supervision of Dr. Antoine Bosselut on multilingual LLMs.

University of Tehran

Research & Teaching Assistant

Tehran, Iran

Jan 2023–Present

Research Assistant at NLP Lab & Intelligent Information Systems Lab

Leading research on Persian speech synthesis and medical LLMs.

Chief Teaching Assistant: ML Methods in NLP and Digital Speech Processing — assignments, discussions, and course material development.

Teaching Assistant: Information Retrieval, Machine Learning, Statistical Inference, Deep Learning, Advanced Algorithms

Designed final projects and homework assignments for 200+ students across multiple courses

Sharif University of Technology

Teaching Assistant

Machine Learning & Deep Learning Courses

Designed and implemented LLM agent assignment for Deep Learning course. Organized comprehensive ML contest with 200+ participants across three domains: NLP, Computer Vision, and General ML. Developed both problem statements and complete solution frameworks.

Sofia

Co-founder & NLP Engineer

Omnipresent RAG-based Customer Service Chatbot

Architected and deployed multi-platform chatbot (Telegram, WhatsApp, Web). Achieved 20,000+ active users on University of Tehran's website. Implemented RAG pipeline with custom knowledge base integration.

Neuromatch Summer School

Teaching Assistant

Remote

Jun-Jul 2024 & Jun-Jul 2025

Mentored international students in Deep Learning with focus on Natural Language Processing. Guided students through daily sessions covering deep learning architectures and applications.

Amirkabir Robotics School (FIRA Academy)

Instructor & Developer

Tehran, Iran

2020–2022

Taught Image Processing & ML courses, developed SWIMBot platform for Diginext. Created comprehensive curriculum for computer vision and machine learning fundamentals.

Amirkabir University of Technology

Teaching Assistant & Research Assistant

Tehran, Iran

2020–2022

Teaching Assistant Introduction to Computational Intelligence

Research Assistant at Computer Intelligence and Large Scale System Research Lab — Worked on facial emotion recognition

Key Projects

PARSA-Bench: Evaluation of Persian Audio Language Models: Research Project – 2025

Developed a benchmark of 12,000+ Persian audio samples across 14 tasks, including ASR, emotion recognition, poetry meter detection, code-switching, translation, NER, intent classification, and QA. Combined real and TTS-generated audio from various sources.

PersianMedQA: Medical LLM Evaluation: Research Project - 2025

Created large-scale dataset of Persian medical questions (20000+ questions) to evaluate 40+ state-of-the-art LLMs across Persian and English. Benchmarked general-purpose, Persian fine-tuned, and medical models in zero-shot and chain-of-thought settings.

Multimodal Question-Answering System: ML Course Contest Design – 2025

Designed a synthetic multi-object counting dataset of Iranian animal species using Google Search API and SAM2, and trained a multimodal QA model for animal counting.

Selected Coursework & Certifications

Graduate Courses (Perfect 4.0/4.0):

- Machine Learning (20/20)
- Digital Speech Processing (20/20)
- Statistical Inference (19.2/20)
- Deep Learning (18.75/20)

Professional Certifications:

- Machine Learning (Stanford/Coursera)
- NLP Specialization - 4 Courses (DeepLearning.AI)
- Generative AI with LLMs (DeepLearning.AI)
- Algorithms Specialization (Stanford/Coursera)

Honors & Academic Excellence

2022: Top 0.5% (76th among 13,000) - Computer Engineering National Master's Entrance Exam

2022: Top 1% (35th among 2,000) - Computer Science National Master's Entrance Exam

2016: Top 0.25% (411th among 163000) - National University Entrance Exam

References

Dr. Azadeh Shakery

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Dr. Heshaam Faili

Professor
University of Tehran
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Dr. M.B. Menhaj

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