

Ebrahim Mousavi

PH.D. APPLICANT IN NATURAL LANGUAGE PROCESSING & MACHINE LEARNING

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Education

Tarbiat Modares University

Tehran, Iran

M.Sc. IN INFORMATION TECHNOLOGY (ARTIFICIAL INTELLIGENCE FOCUS)

Sept. 2018 – Sept. 2021

- Thesis: *Designing a Fashion Recommendation System using Deep Learning*
- Built a multi-modal deep learning pipeline fusing visual and textual product features for personalized fashion recommendation.
- Advisor: [Prof. Gholam Ali Montazer](#)

Islamic Azad University

Isfahan, Iran

B.Sc. IN SOFTWARE ENGINEERING

Feb. 2009 – Feb. 2015

- Thesis: *Implementation of a Pyramid Security System with Firewall*

Publications & Research Experience

PEER-REVIEWED JOURNAL ARTICLES

Pourmirzaei, M., Montazer, G.A., **Mousavi, E.** 2025. *ATTENDEE: an AffecTive Tutoring system based on facial EmotioN recognition and head pose Estimation to personalize e-learning environment*. *Journal of Computers in Education* (Q1) 12: 65–92. doi:10.1007/s40692-023-00303-w

Beygi, M., Fallahi, M., Vali, R., **Mousavi, E.**, Saberian, M., Li, J., Barari, A. 2023. *FELA-DNN framework to predict the seismic bearing capacity of skirted strip footing built on a non-cohesive slope*. *Soil Dynamics and Earthquake Engineering* (Q1) 171: 107932 (August 2023). doi:10.1016/j.soildyn.2023.107932

PREPRINTS

Pourmirzaei, M., Montazer, G.A., Esmaili, F., **Mousavi, E.**, Karamizadeh, S. 2021. *How Self-Supervised Learning Can be Used for Fine-Grained Head Pose Estimation?* *arXiv preprint*. arxiv.org/abs/2108.04893

Amiri, M., Montazer, G.A., **Mousavi, E.** 2024. *Educational Customization by Homogenous Grouping of e-Learners based on their Learning Styles*. *arXiv preprint*. arxiv.org/abs/2408.12619

IN PREPARATION

ProtBERT-NER: Transformer-based sequence labeling for post-translational modification sites in cancer-associated proteins. Manuscript in preparation from PhD thesis supervision of [Sima Abolhassani Khajeh](#). *Contribution*: Thesis supervision and ML/DL/LLM instruction; major ProtBERT implementation, training pipelines, and benchmarking.

RESEARCH PROJECTS

Makan System (Aug. 2024–Present): Domain-specific LLMs—SFT, LoRA/QLoRA, alignment (DPO, GRPO), RAG, and agents; 4-bit deployment (+22% benchmark gain, –35% hallucination, –60% latency).

M.Sc. Thesis (Tarbiat Modares, 2018–2021): Multi-modal deep learning for fashion recommendation. Advisor: Prof. Gholam Ali Montazer.

Teaching Experience

Machine Learning Course (2020–2023): Taught machine learning for master's and PhD students over five semesters at Tarbiat Modares University, Tehran, under [Prof. Gholam Ali Montazer](#). Course materials maintained in an open-source repository.

AI Instructor & Technical Writer (2023–Present): Freelance, remote. Developed instructional materials on machine learning, deep learning, GenAI, LLMs, and PyTorch; authored 100+ tutorials with 120,000+ cumulative views.

 **LLMs and AI Agents Course** (2023–Present): Open-source curriculum developer for GenAI, LLMs, and AI agents.

Mentoring

Sima Abolhassani Khajeh (2024–Present): PhD student, Islamic Azad University, Qeshm International Branch. Supervised PhD thesis on protein language models and PTM site prediction (ProtBERT-NER, in preparation); mentored through ML, deep learning, and LLM coursework and co-led ProtBERT implementation and thesis development.

Zahra Tavakoli Rad (2024–2025): Computer science student, Dalhousie University, Canada. Mentored on M.Sc. thesis research on code-understanding language models, including model design, training workflows, and scholarly writing; also supported LLM and deep learning course design and instruction.

Engineers & Students (50+) (2023–Present): Remote, independent ML/DL/GenAI mentorship through structured programs on project design, experimentation, and reproducible model development.

Industry Experience

Makan System (Aug. 2024–Present), AI Team Lead — LLMs & Agents: Lead LLM and agent R&D for research collaborations on domain-specific models, RAG, and efficient deployment.

Resana (Feb.–Aug. 2024), AI Team Lead, Tehran, Iran: Led development of generative image models and intelligent document processing agents, achieving 94% accuracy in automated structured data extraction from complex documents.

AIHomeDesign (Sept. 2023–Feb. 2024), Computer Vision Developer, Remote: Designed and deployed Stable Diffusion pipelines for real-estate image enhancement, including virtual staging and scene transformation; optimized high-resolution diffusion inference for 10,000+ daily image transformations.

Baharan Company (Jan. 2021–Aug. 2023), Deep Learning Researcher and Developer, Tehran, Iran: Implemented production computer vision systems for facial recognition, identity verification, and intelligent image analysis.

Network Engineering (Feb. 2017–Mar. 2020), Freelance / Contract Roles, Iran: Designed and maintained secure network infrastructures using Cisco (CCNA-level) and Microsoft enterprise systems.

Professional Development — Open-Source Projects

 **LLMs and AI Agents Course**: Comprehensive tutorial series on GenAI, LLMs, and AI agents deployments.

 **LLM-Lab**: From-scratch LLM implementation, emphasizing training efficiency and text generation fundamentals.

 **Facial Age Estimation**: Deep learning pipeline for predicting human age from facial images.

 **Technical Writing Portfolio**: Authored 110+ articles on machine learning, GenAI, and LLMs; 120,000+ total views.

Technical Skills

Machine Learning & NLP: Transformers, LLMs, LoRA/QLoRA, DPO/GRPO, RAG, LangChain, LangGraph, AutoGen, CrewAI.

Computer Vision & Generative Models: PyTorch, diffusion models, facial analysis, multi-modal feature learning.

Research Engineering: Multi-GPU training (FSDP/DeepSpeed), vLLM, TensorRT-LLM, quantization (AWQ/GGUF), Docker, Linux, Python, SQL, Git.

Languages

English — Advanced (IELTS 6.5; Duolingo 110) **Turkish** — Intermediate **Persian** — Native

Academic References

Prof. GholamAli Montazer, Professor of Information Technology, Tarbiat Modares University, Tehran, Iran. Montazer@modares.ac.ir

Prof. Ali Masoudi-Nejad, Professor of Bioinformatics, University of Tehran. Amasoudin@ut.ac.ir