EBRAHIM MOUSAVI

Generative AI Researcher and Engineer

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WORK EXPERIENCE

AI Team Lead – LLMs & Agents

Makan System / Research Collaborations

📅 Aug 2024 – Now

- Led the design, fine-tuning, and deployment of custom LLMs for code generation and protein sequence analysis, specializing in multi-GPU training, LoRA, tokenizer design.
- Built Retrieval-Augmented Generation (RAG) pipelines and developed task-oriented and open-domain chatbots using LLMs.

AI Instructor

Freelancer / Contract Roles

📅 July 2023 – Now

- Published 100+ advanced tutorials on ML, NLP, and LLMs at Medium Ⓜ️ , covering practical and research-focused content.
- Developed curriculum and tutorials for real-world AI workflows using Python and PyTorch.

AI Team Lead

Resana (in partnership with Rutelia Company, Japan)

📅 Feb 2024 – Aug 2024   📍 Tehran

- I developed and led the implementation of Image Generative AI and worked on LLM-based AI agents for intelligent document processing.

Senior Computer Vision Developer

AIHomeDesign in Vancouver, Canada

📅 Sep 2023 – Feb 2024   📍 Canada, Tehran's office

- Developed and deployed diffusion and vision-language models for real estate, including item removal, virtual staging, and day-to-dusk changes. Improved image synthesis by integrating advanced diffusion models and collaborated with teams to scale AI tools for interior design.

Deep Learning Researcher and Developer

Baharan Company & Freelance

📅 Jan 2021 – Aug 2023   📍 Tehran, Iran / Remote

- Deep Learning Developer, focusing on computer vision and NLP (Jan 2021 – Mar 2022).
- Continued independently as a Deep Learning Freelancer, delivering AI solutions for various clients (Apr 2022– Aug. 2023).

SUMMARY

AI developer with experience in deep learning, computer vision, and NLP, experienced in publishing peer-reviewed research and mentoring others. Interested in leading innovative projects in LLM research and development.

EDUCATION

Master of science in IT

Tarbiat Modares University, Tehran, Iran

📅 Sept 2018 – Sep 2021

Thesis title: Designing a fashion recommendation system

B.Sc. in Software Engineering

Islamic Azad University, Isfahan, Iran

📅 Feb 2009 – Feb 2015

Thesis title: Implementation of a pyramid security system with firewall for computer networks

PUBLICATIONS

Q1 Journal Articles

- **ATTENDEE:** an AffecTive Tutoring system based on facial EmotioN recognition and heaD posE Estimation to personalize e-learning environment *Journal: Education and Information Technologies (Springer), 2023*
- **FELA-DNN framework** *Journal: Soil Dynamics and Earthquake Engineering (Elsevier), 2023*

arXiv Preprint

- **How Self-Supervised Learning Can be Used for Fine-Grained Head Pose Estimation?** *arXiv Preprint, 2021*

LANGUAGES

Persian   ● ● ● ● ●

English   ● ● ● ● ○
(IELTS 6.0 – Duolingo 110)

Turkish   ● ● ● ○ ○

Network & Systems Engineer | Linux Expert
Freelance / Contract Roles

📅 Feb 2017 – Mar 2020   📍 Iran

- Designed, configured, and maintained secure network infrastructures using Cisco (CCNA-level) and Microsoft systems (Active Directory, DNS, DHCP, Group Policy).

TEACHING & MENTORING

Teaching Assistant in Machine Learning course ⓞ
Tarbiat Modares University

📅 Mar 2020 – Jul 2024   📍 Tehran, Iran

- Taught and assisted in Machine Learning and Neural Networks courses for five semesters, demonstrating strong communication and pedagogical skills.
- Designed and teach a comprehensive Machine Learning course using Python, scikit-learn, and PyTorch.
- Created and maintained an open-source GitHub repository with lectures, code notebooks, and assignments.

Research Assistant
LBB Laboratory, University of Tehran

📅 May 2024 – Jan 2025   📍 Tehran, Iran

- Supervised by Prof. Ali Masoudi-Nejad.
- Conducting research on systems biology and bioinformatics, including data analysis and model development.

AI & Machine Learning Writer Ⓜ

- Authored a series of tutorials on machine learning, deep learning, and Python programming aimed at simplifying complex concepts for a broad audience.
- Covered practical topics such as model training, evaluation, and neural network design, with hands-on code examples.

SELECTED RESEARCH PROJECTS

LLMs and AI Agents Course ⓞ

- A comprehensive tutorial series for developers interested in GenAI, LLMs, and deploying AI agents in real-world scenarios.

Large Language Model with PyTorch ⓞ

- Implemented a custom LLM from scratch using PyTorch, focusing on training efficiency and text generation, showcasing a strong foundational understanding of LLM architectures.

Protein Language Model ⓞ

- Developed a GPT-based model to learn embeddings from protein sequences, inspired by LLM techniques, demonstrating interdisciplinary research capabilities.

Facial Age Estimation ⓞ

- Prediction of human age from facial images with Transformers.

STRENGTHS

Hard-working   Detail-Oriented
Team Player   Instructor & Mentor

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Python   Machine Learning   Deep Learning
Generative AI   LLMs   MCP   NLP
Computer Vision   Diffusion Models

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AI Agents   LangChain & LangGraph
AutoGen & CrewAI   Transformers
LoRA & Fine-Tuning   Multi-GPU Training

REFEREES

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🎓 Google Scholar