

Elham Esmaeilnia
Senior AI Research & Development Engineer

✉ elham.e.shirvani@gmail.com
📞 +98 911 128 7040
☞ GitHub: <https://github.com/Elham-Esmaeilnia>
☞ LinkedIn: <https://www.linkedin.com/in/elham-esmaeilnia>
Tehran, Iran

Senior AI Engineer and Researcher with over 10 years of experience in Artificial Intelligence, Machine Learning, NLP, and Big Data systems. Specialized in Large Language Models (LLMs), Speech processing, Intelligent agents, and Decision-support systems. Background in both academic research and industrial AI development.

Work Experience

Senior AI Engineer – Parnian Gostar

Aug 2025 – Present

- Design and development of AI-based Financial model AlphaFusionNet
- Implementation of LLM-based financial intelligent agents
- Development of timeseries pipelines and deep learning models
- Building AI-driven hybrid decision-making systems

AI Research & Development Engineer – Bertina

Dec 2024 – 2025

- Research and development of Persian NLP systems
- Contributor and co-author of the G2P article from the Bertix Artificial Intelligence Group.
- Designing text normalization, tokenization for G2P models
- Working on language understanding systems
- Designing a diacritization model for converting raw Persian texts into Persian texts with diacritics

AI Research & Development Engineer – Farajahan

Nov 2023 – Dec 2024

- Development of intelligent QA and text correction systems
- Developed a system to generate intelligent responses from Persian content using RAG.
- Development of Persian speech enhancement model
- Training transformer-based language models and Research on Persian NLP applications
- Created a Persian intelligent assistant leveraging LLM and Crewai to perform multiple task-based functions.

Big Data & Web Developer – Kanda Idea

Jun 2020 – Aug 2022

- Big data processing using Spark, Hadoop, and HDFS
- Backend and API development
- Data analytics and pipeline implementation using Cassandra
- Web-based software programming (IMIDRO, WEB MARINE)
- Design use-case and sequence diagrams for software architecture

AI Researcher – IPM

Apr 2018 – Aug 2018

- Research on Deep learning and semi-supervised processing

Instructor – Alavi Institute

Jun 2013 – Jul 2014

- Teaching programming, computer fundamentals and Mathematics

Education

PhD Candidate in Computer Engineering (AI & Robotics)
Islamic Azad University – Tehran Central

MSc in Computer Engineering (Artificial Intelligence)
Rouzbehani University_ Sari

BSc in Computer Engineering
Shahid Beheshti University_ Tehran

Technical Skills

Programming: Python, C++, MATLAB, JavaScript/JQuery, HTML/CSS, VHDL

AI & ML: TensorFlow, PyTorch, Keras, Transformers, Stable-Baselines3, kerasRL, Librosa, Audiolib, scikit-learn, OpenCV, ...

NLP & LLMs & Agentics & Timeseries: LangChain, Langgraph, CrewAI, RAG, vectorDB, Finrobot, Bigbird, CGA, BERT, T5, LSTM, CNN,

Big Data: Spark, Hadoop, HDFS, Cassandra, Neo4j, MongoDB, Redis,..

Tools: Docker, Git, Celery, IBM SPSS Modeler, RapidMiner

Selected Projects

- AI-based Financial Portfolio Optimization System
 - Designing a Diacritization model for converting raw Persian texts into Persian texts with diacritics
 - Persian NLP Pipeline (G2P, Tokenization, Text Correction)
 - RAG-based Intelligent Assistant using LLMs
 - Speech Enhancement using Deep Learning
 - Created a Persian intelligent assistant leveraging LLM and Crewai to perform multiple task-based functions.
 - Web-based systems, IMIDRO & WEB MARINE projects
 - Human behavior recognition in video using sparse coding
 - Video Forgery detection & Facial Expression Recognition
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Certifications

- Data Science & Python – DigiNext
- Web Design – FanAsa
- Teaching Skills – Ministry of Education
- IT Internship – Agricultural Jihad Organization

Honors & Achievements

- National Mathematics Olympiad – Selected Participant
- City-Level Mathematics Olympiad – Selected Participant
- City-Level Physics Olympiad – Selected Participant

Languages

- Persian (Native)
- English (Professional)