



RESUME

Profile

AI Engineer & NLP Researcher with an IEEE journal publication in Complex Question Answering and a novel agentic-RAG framework (FAIR-RAG) achieving state-of-the-art results on multi-hop reasoning benchmarks. **5+ years** of experience building production-grade LLM, RAG, and agentic systems end-to-end – from architecture to deployment. Seeking an **AI Engineer** role to design reliable, scalable AI solutions for automation, intelligent assistants, and decision-support in enterprise settings.

Areas of Expertise

- Trustworthy & Faithful AI**, with emphasis on **automated fact-checking**, claim-evidence verification, and hallucination mitigation in LLM-based generation.
- Agentic RAG & Multi-hop Reasoning**, focusing on multi-step retrieval, adaptive query refinement, and evidence-grounded reasoning for complex queries.
- Information Retrieval & QA Systems**, focusing on semantic search, dataset creation, and fine-tuning multilingual models for low-resource (Persian) settings.

Language Competence and Test Scores

Persian (Native), English: (Advanced)
IELTS Academic (November 2025): Overall 7.5
[Listening: 8.0, Reading: 7.5, Writing: 7.0, Speaking: 6.5]

Technical Skills

- Python Programming:** NLP, ML, DL and Data Science
- NLP Tasks:** Sentiment Analysis, Text Classification, NER, Dataset Creation & Annotation
- LLMs:** LLM Fine-tuning, Advanced RAG, Prompt Engineering, LangChain, LlamaIndex, Faithful/Grounded Generation, Hallucination Mitigation
- Evaluation:** RAG Evaluation, Benchmarking (HotpotQA, 2WikiMultiHopQA)
- AI Agent Design & Orchestration:** Multi-Agent Systems, Tool Integration, Vector DBs, Agent Memory Systems
- API Deployment & Scaling:** FastAPI, RESTful API Development, API Integration (Twitter, Telegram)
- Information Retrieval:** Semantic Search, Embeddings, TF-IDF, BM25, RAG Architecture Design
- Data & Databases:** Elasticsearch, SQL Server, Neo4j, Vector Databases
- Data Visualization:** Power BI, Matplotlib, Seaborn
- Data Crawling:** BeautifulSoup, Scrapy
- NLP/LLM Core Libraries:** Transformers (Hugging Face), PyTorch, Scikit-learn, Pandas, NumPy
- Git & Version Control**
- Linux/Unix Command Line**

- Docker & Containerization



Soft Skills

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|---|--|---|--|
| ▪ Self-study and continuous learning | | ▪ Problem solving and analytical thinking | |
| ▪ Teamwork and collaboration | | ▪ Time and project management | |
| ▪ Reliability and commitment to quality | | ▪ Independent research in AI/NLP projects | |

- **AI/NLP Engineer (Contract)** | Hamta Research Institute, Tehran

2026 – Present

- HERMES - Humanities Evidence-grounded Research via Multi-agent Essay Synthesis:
 - Designed an end-to-end agentic pipeline that mirrors the full scholarly workflow – from problem framing and literature search to structured drafting and documented LaTeX output – positioned as a research assistant that augments, rather than replaces, the human scholar.
 - Orchestrated specialized agents for literature retrieval, key-argument extraction, outline proposal, and faithful section-by-section generation, with every claim grounded in real, verifiable sources.
 - Embedded human-in-the-loop checkpoints at each stage, requiring scholar approval before the pipeline advances, to ensure interpretive control and accountability.
 - Differentiated from existing tools, which cover only isolated steps, by automating the complete research chain while optimizing specifically for long-form humanities writing in Persian.
 - Technologies: LLMs, agentic frameworks (LangChain), RAG, faithful generation, Prompt Engineering.

- **AI/NLP Engineer (Contract)** | Divar (Divar.ir), Tehran

2026 – Present

- Hoshyar – Fraud-Risk Detection & Advisory for Online Classifieds (Fact-Checking):
 - Designed an end-to-end fraud-risk system for Iran's largest classifieds platform, combining fact-checking and agentic reasoning to surface high-risk listings and guide users toward safer transactions.
 - *Architected a phased detection strategy: a rule-based + LLM zero-shot layer to overcome the cold-start problem at launch, designed to evolve into a supervised ML model trained on accumulated listing and user signals.*
 - Adopted a probabilistic, advisory output framing (risk indicators and user education rather than definitive "fraud" labels) to balance protective value with legal and reputational risk.
 - Engineered platform integration as a Kenar demand add-on (post-token redirect flow), designing retrieval and verification within real-world API constraints.
 - Technologies: LLMs, RAG, agentic/zero-shot reasoning, rule-based heuristics, FastAPI.

▪ **AI/NLP Engineer (Contract)** | Najm Research Institute, Tehran

2024 – 2025

▪ FARSIQA Islamic Question and Answer System with FAIR-RAG

Architecture:

- Designed and implemented an advanced Islamic question-answering (QA) system with optimized RAG architecture, including fine-tuning of embedding models and implementation of hybrid text-scraping search.
- This research, conducted under the supervision of **Dr. Behrouz Minaei**, led to two key publications on arXiv: **FAIR-RAG & FARSIQA**.
- Technologies: LangChain, GPT-4, Sentence Transformers, Elasticsearch (hybrid search), FastAPI.

▪ Design of Multi-Agent AI Systems:

- Development of Advanced AI-Backend Service: Designed and implemented a Multi-Agent architecture to solve specialized problems, with the ability to define independent intelligent agents
- Implementation of Agent-based Problem Solving: Each agent is equipped with a dedicated knowledge base and optimized RAG architecture, with the ability to interact naturally and solve user problems in different specialized areas
- Design of agent management system: Built an agent-management layer with intelligent request routing, learning from verified content, and automated knowledge generation.
- Technologies: LangChain, Vector Databases, FastAPI, Redis (caching), Docker

▪ **AI/NLP Engineer & Data Infrastructure Lead (Contract)** | Baqir al-Olum Research Institute, Qom

2022 – Present

▪ Large-Scale Data Infrastructure:

- Designed and maintained a distributed crawling system (Twitter/Telegram) and an Elasticsearch cluster handling billions of records, optimizing mappings and real-time indexing.
- Technologies: Python, Elasticsearch, Redis, Kibana, BeautifulSoup, API Integration.

▪ High-Performance Backend:

- Developed RESTful APIs using FastAPI and Python to serve high-throughput data analysis systems, including user profiling and trend detection.

▪ Model Training & Dataset Creation:

- Generated large-scale datasets (250k+ samples) to fine-tune LLMs for Persian sentiment analysis (~90% accuracy), topic classification, and geolocation detection.
- Technologies: PyTorch, Transformers, Scikit-learn, Data Annotation, Model Fine-tuning.

▪ Production Deployment:

- Managed the end-to-end deployment and scaling of NLP systems in production environments.
- Technologies: Python, FastAPI, Docker, CI/CD, Index Lifecycle Management.

▪ **NLP Research Assistant (Contract)** | Parsa Research Institute, Tehran

2021 – 2022

▪ Design an Open Domain Question Answering system (ODQA):

- Designed and implemented a specialized Islamic-domain QA system using advanced NLP techniques.
- Produced a Persian multi-hop complex QA dataset for model training (published in IEEE: <https://ieeexplore.ieee.org/document/11075543>)
- This project, completed in collaboration with **Dr. Hamid Hassanpour**, involved designing the annotation framework using a hyperlinks graph.
- Technologies: Python, BERT models, Graph Theory, Human-in-the-loop Annotation.

Education

Master of Science in Physics – Complex Systems

Sharif University of Technology, Tehran, Iran

- Ranked among the Top 3 universities in Iran and 375th globally (QS 2025).

17th place in the Master's degree in Physics entrance exam (2021)

GPA: 18.71/20.00

Supervisor: Dr. Shahin Rouhani

Sep 23, 2021

– Dec 19,
2023

Bachelor of Science in Physics

Sharif University of Technology, Tehran, Iran

- Ranked among the Top 3 universities in Iran and 375th globally (QS 2025).

1024th place in the National Entrance Exam (2016) - **Top 0.5%**

GPA: 17.30/20.00 (Last two years GPA: 18.44/20.00)

Supervisor: Dr. Mehdi Golshani

Sep 22, 2016

– Feb 18,
2021

Certifications and Workshops

- "Comprehensive Data Science and Artificial Intelligence" course - University of Tehran, 2022 – 2023, 350 hours over 14 months
Key topics: SQL Server Database Management, Python for Data Science & AI, Deep Learning with Keras/TensorFlow, Computer Vision, Big Data Analytics with Apache Spark, Text Mining, Web Scraping, Social Network Analysis, Recommender Systems, Business Intelligence with Power BI, Data Storytelling with Tableau
- "Machine Learning" course – Stanford University (Coursera), Instructor: Prof. Andrew Ng, 59 hours
Key topics: supervised/Unsupervised Learning ‘Neural Networks ‘SVM ‘Clustering ‘Anomaly Detection
- "Advanced Python Programming" course – Maktabkhoone, instructor: Jodi Mirmirani, 56 hours
Key topics: Advanced Python Programming ‘OOP ‘Decorators ‘Generators ‘Threading ‘Async Programming
- "Advanced LLM & RAG Application Development Specialization" course – DeepLearning.AI ([Link](#))
Completed 3 specialized courses: "Building and Evaluating Advanced RAG", "LangChain Chat with Your Data", "LangChain for LLM App Development"
Key topics: Advanced RAG Architectures, Query Optimization, Agent Development, Vector Stores, Conversational Retrieval Chains, Evaluation Metrics, and Memory Management.
- "Advanced algorithms and data structures" course – Quera
Key topics: Advanced algorithms (e.g. dynamic programming, graphs, trees), complex data structures (e.g. Heap, Trie), and solving optimization problems with a focus on time and space complexity

Honors and Awards

- **Fourth place** in the final of the DataDays 2021 competition at Sharif University of Technology
Ranked fourth out of 500+ teams in the national Learning to Rank competition, supported by "Torob" (the largest Iranian search engine). Implementing a search optimization algorithm that showed good performance in increasing users' click-through rate (CTR) during the A/B Testing stage on the main site of Torob
- **First place** in the national competition "Payesh - Python for Knowledge"
Ranked first in the scientific simulation challenge of a meteorite impact, by developing an accurate computational model based on reputable articles and implementing it in Python using NumPy and Matplotlib

Publications and Preprints

Journal Articles:

1. A. Ghafouri, **M. Aghajani Asl**, H. Naderi, and M. Firouzmandi, "IslamicPCQA: A Dataset for Persian Multi-hop Complex Question Answering in Islamic Text Resources," IEEE Transactions on Audio, Speech and Language Processing, July 2025. ([Link](#))

Key Achievement:

- Directed the end-to-end creation of a large-scale, complex QA dataset (12,000+ pairs) using graph-based methods, and successfully fine-tuned state-of-the-art multilingual LLMs to establish strong baseline performances for specialized domains.

2. **M. Aghajani Asl**, M. Asgari-Bidhendi, B. Minaei-Bidgoli, "FAIR-RAG: Faithful Adaptive Iterative Refinement for Retrieval-Augmented Generation," arXiv preprint arXiv:2510.22344, Oct. 2025. ([Link](#)) (Under review at Knowledge-Based Systems, Mar 01, 2026)

Key Achievement:

- Developed an advanced multi-agent RAG framework featuring dynamic query refinement and automated evidence verification, outperforming strong industry baselines by over 8% and ensuring highly accurate, hallucination-free AI reasoning.

3. **M. Aghajani Asl**, B. Minaei-Bidgoli, "FARSIQA: Faithful & Advanced RAG System for Islamic Question Answering," arXiv preprint arXiv:2510.25621, Oct. 2025. ([Link](#))

Key Achievement:

- Engineered a production-ready, full-stack agentic QA system integrating a 1.7-million document knowledge base, featuring dynamic LLM routing to significantly optimize API costs and latency, while achieving a 97% reliability rate in safe query handling.

Hobbies

- **Sports:** Competitive Football and Table Tennis, Bodybuilding for health and fitness
- **Arts & Culture:** Cinema (Focus on Sci-Fi and Drama genres), Following global tech news.