

ARIAN ZARIFIAN

MACHINE LEARNING ENGINEER



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[Google Scholar Portfolio](#)

PROFESSIONAL SUMMARY

Machine Learning Engineer experienced in designing and deploying production-grade AI solutions across the full machine learning lifecycle. Built AI products including Simiaroom’s therapist-patient matchmaking platform, an AI-powered travel planning assistant, and large-scale retrieval systems for knowledge discovery. Strong background in NLP, including fine-tuning BERT-based models for text classification, as well as machine learning deployment and AI-driven product development.

SKILLS

ML / DL / GenAI	PyTorch, TensorFlow/Keras, Scikit-Learn, Hugging Face, Transformers, OpenAI API, LangChain, CrewAI, RAG, NLP, PEFT (LoRA)
Programming	Python, Solidity, Selenium, BeautifulSoup, Qiskit
Data & Viz	NumPy, Pandas, Matplotlib, Seaborn, SciPy
Databases & Vector	PostgreSQL, SQL Server, MongoDB, FAISS, Chroma DB
Tools & Cloud	GitHub, Docker, FastAPI, AWS (SageMaker)

WORK EXPERIENCE

Simiaroom

Dec 2025 – Present

Machine Learning Engineer

- Engineered a high-throughput, AI-driven Telehealth therapist matchmaking engine using a 6-layer orchestration pipeline.
- Developed clinical translation layers via fine-tuned LLMs and integrated an XGBoost Pairwise Ranker to maximize patient-therapist alignment metrics.

SB Immigration Services

Jul 2025 – Present

ML Engineer

- Architected an automated, production-grade RAG assistant powered by social media content streams to dynamically resolve complex immigration queries.
- Built an automated ingestion pipeline to extract video audio from Instagram, transcribing multi-lingual content via OpenAI Whisper hosted on AWS SageMaker.
- Implemented dense retrieval vectors using Jina-embeddings and custom Persian-embedding architectures, storing indices within a MongoDB vector store for low-latency similarity queries.

Healthionics

Jul 2025 – Present

ML Engineer/ CEO

Mass Group

Jul 2023 – Jun 2025

ML Engineer & Team Leader

- Achieved a 0.797 public score on NLP disaster classification tasks utilizing targeted fine-tuning on optimized BERT configurations (`bert_en_uncased_L-10_H-128_A-2`).
- Fine-tuned ResNet-34 architectures to implement a robust image-to-text conversion subsystem, optimizing handwritten data recognition accuracy.
- Applied Parameter-Efficient Fine-Tuning (PEFT) methods, including LoRA, Adapters, and Soft Prompt Tuning, on T5-small models for customized contextual generation.
- Developed PyTorch-based deep learning time-series models for quantitative asset pricing, achieving a 70% accuracy rate on 1H/4H directional trend vectors for Bitcoin.

MAPSA HR & Training

Aug 2022 – July 2023

Machine Learning Engineer Intern

- Built sequence-to-sequence neural machine translation pipelines with attention mechanisms from scratch using PyTorch.
- Designed and deployed a computer vision mask-detection pipeline utilizing EfficientNetB0 models and real-time frame preprocessing frameworks.
- Constructed a semantic text-similarity recommendation engine leveraging sentence-transformers and Scikit-learn cosine similarities.
- Conducted advanced statistical data modeling, exploratory data analysis (EDA), and object detection workflows (YOLO) across diverse enterprise datasets, including scoring a 89% accuracy metric on regional property valuation pricing models.

INDEPENDENT PROJECTS

Multi-Agent Travel Orchestration System

Standalone Architecture

- Developed an autonomous multi-agent orchestration engine utilizing specialized LLM agents for real-time weather analytics, flight route optimization, and personalized hotel synthesis.
- Constructed custom decision engine state logic ensuring resilient error handling, rate limiting, and parallel agent execution vectors.

HONORS & AWARDS

3rd Place Winner — AzkiVam Fintech Hackathon

Dec 2025

EDUCATION

M.Sc. in Structural Engineering

Ghazvin, Iran

Imam Khomeini International University

LICENSES & CERTIFICATIONS

- Natural Language Processing with Attention Models
- Improving Deep Neural Networks
- Structuring Machine Learning Projects
- Unsupervised Learning
- Neural Networks and Deep Learning
- Advanced Learning Algorithms
- Linear Algebra for Machine Learning & Data Science
- Supervised Machine Learning

PUBLICATIONS

Experimental study on the behavior of thermally insulated RC beams strengthened with CFRP after their exposure to high temperatures compared to non-insulated ones

Canadian Journal of Civil Engineering, 47(7), 875-883. [\[Article Link\]](#)

Role of macro fibers (steel and hybrid-synthetic) in the residual response of RC beams exposed to high temperatures

SN Applied Sciences, 2(12), 1981. [\[Article Link\]](#)

LANGUAGES

- **English:** Proficient