

Amir Ata Ghaffarian

CONTACT INFORMATION

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ABOUT ME

Computer Science graduate, passionate about Artificial Intelligence, Machine Learning. Experienced in building AI/ML systems and conducting research for real-world applications.

EDUCATION

Amirkabir University of Technology (Tehran Polytechnic)

Tehran, Iran

B.Sc in Computer Science

2020 – 2025

GPA: 4.0/4.0 (18.97/20) — Last Year GPA: 4.0/4.0 (19.60/20)

Relevant Coursework: Machine Learning, Deep Learning, Artificial Intelligence, Data Structures & Algorithms, Information Retrieval

HONORS AND AWARDS

- Ranked in top **0.3%** (464/150,000) in National University Entrance Exam (Mathematics).
- Ranked in top **5%** (3rd) among Computer Science students at Amirkabir University.

RESEARCH INTERESTS

Deep Learning, World Models & RL, Robotics, Embodied AI, Neuroscience, Computational Biology

EXPERIENCES

Research Intern

Okinawa Institute of Science and Technology – Japan

Feb 2026 – Jul 2026

Currently a Research Intern at OIST's Genomics and Regulatory Systems Unit, working under the supervision of Prof. Nicholas Luscombe and Dr. Charles Plessy. My research lies at the intersection of AI and Bioinformatics, where I apply advanced Deep Learning architectures such as Self-Supervised Learning (VICReg, JEPA, Transformers) and Graph Neural Networks to decode genomic rearrangement patterns. By representing pairwise alignments through a multimodal approach (combining image and text features), we aim to uncover structural variations at scale. I manage the end-to-end computational pipeline on an HPC cluster, utilizing Slurm and Singularity for seamless scalability and reproducibility.

Research Assistant

Sarif Center for Information Systems and Data Science

Jan 2025 – Jun 2025

Conducted research on predictive maintenance for batteries and bearings using transformers and diffusion models under the supervision of Dr. Babak Khalaj and Dr. Mohammad Hossein Rohban.

Site Reliability Engineering Intern

Neshan

Jul 2025 – Aug 2025

Completed an intensive bootcamp on Site Reliability Engineering, gaining hands-on experience in system administration, infrastructure automation, container orchestration, and monitoring systems.

Software Engineering Intern

Yektanet

Jun 2024 – Jul 2024

Developed Dotanet Ad Server features (ad retrieval, auctions, click/impression tracking) with Go, Docker, PostgreSQL, and Kafka, ensuring scalability across multiple publisher websites.

Mentor (Python Bootcamp)

[Quera](#)

Oct 2023 – Dec 2023

Created course content and led problem-solving sessions to teach Python fundamentals and coding skills to participants.

Undergraduate Teaching Assistant

Amirkabir University & Sharif University

2022 – 2025

Machine Learning (Prof. Ali Sharifi-Zarchi, Sharif University),
Advanced Programming, AI, Algorithms (Prof. Mehdi Ghatee, Amirkabir University),
Image Processing (Prof. Mostafa Shamsi, Amirkabir University),
Operating Systems, Software Engineering (Prof. Zahra Ghorbanali, Amirkabir University)

PROJECTS

Knowledge Graph Generator [GitHub](#) : Developed a system to generate knowledge graphs from various data sources using Python. Integrated with FalkorDB for graph storage, Kafka for real-time data processing, MinIO for object storage, Redis for ensuring idempotency.

DiffRUL-CMAPSS [GitHub](#)

Built a diffusion-based data augmentation model (PyTorch) for aero-engine RUL estimation, integrating LSTM, transformers, and DDPM, based on a 2024 RESS paper.

Search Engine [GitHub](#)

Designed an IR system (Python, TF-IDF, ParsBERT) with K-Means clustering and FAISS for efficient document retrieval.

Deep Learning Projects [GitHub](#)

Implemented PyTorch models (GANs, KANs, MLP) for tensor-based tasks, optimized for performance and deployment.

Applicant Tracking System (ATS) [GitHub](#)

Developed an NLP-based web app (Python, Flask, Docker) with RESTful APIs to rank CVs using SentenceTransformers and cosine similarity.

Dotanet [GitHub](#)

Created a scalable ad platform (Go, PostgreSQL, Kafka) with RESTful APIs for ad serving, auctions, and real-time tracking.

SKILLS

Programming Languages Python, Golang, C/C++, Java

Frameworks & Libraries NumPy, Pandas, TensorFlow, PyTorch, Hugging Face Transformers, ViT, Keras, Scikit-learn, OpenCV, NLTK, FastAPI, Gin, Django

Databases MySQL, PostgreSQL, Redis, FalkorDB, MinIO

Tools Linux, Git, Docker, Docker Compose, Kubernetes, Slurm, Singularity, Kafka, Prometheus, Grafana, Nginx, Gitlab CI/CD, Postman

CERTIFICATES & WORKSHOPS

Machine Learning Specialization

DeepLearning.AI, Stanford University, Issued May 2024

Neuromatch Deep Learning Course

Neuromatch, Issued Jul 2025

Foundational Cloud Practitioner

Cloud Academy, Issued Sep 2025

Project-Oriented Course In Backend Development With Golang

Quera, Issued Dec 2024

Task-Oriented Course in Linux

Quera, Issued Mar 2024

Advanced Algorithmic Thinking and Data Structure

Quera, Issued Oct 2023