Ali Alizadeh

Personal Website
alializadeh.dev10@gmail.com
Linkedin
Github

Education

IUST University (among the top 4 universities in Iran) — Tehran, Iran
B.Sc. in Computer Engineering at Iran University of Science & Technology — 2021 – Present

- Thesis: **RNA structure prediction using deep learning**
- GPA of the Last Two Years: **3.66/4.0** (17.37/20.0 in Iranian Scale)
- Degree anticipated Feb 2026

SBUK University — Kerman, Iran
Doctor of Veterinary Medicine (D.V.M.) at University of Kerman — 2018 – 2021

- Completed three years of the D.V.M. program before transitioning to Computer
- Gained foundational knowledge in core **biological sciences**
- **Voluntarily withdrew** to pursue interests in Computer Engineering

High School Diploma - Biology — Rafsanjan, Iran
National Organization for Development of Exceptional Talents **(Sampad)** — 2014 – 2018

- **GPA: 4/4**
- **Sampad** recruits students for middle and high schools through a two-step set of exams at each level. The organization aims to provide a unique educational environment for exceptionally talented students.

Research Interests

- **Machine Learning & Deep Learning**
- **Natural Language Processing (NLP)**
- **Computer Vision**
- **Bioinformatics**
- **Computational Biology**
- **LLMs and Transformer Architectures**

Publications

Deep Learning and Graph Neural Networks for RNA 2D Structure Prediction — **in Preparation**
Authors: **Ali Alizadeh**, Reza Entezari-Maleki

Research Experience

Research Assistant in Dr. Entezari's Lab — IUST University
Bachelor Thesis, School of Computer Engineering — Sept 2024 - present

- Supervisor: Dr. Reza Entezari-Maleki
- Worked on a variety of academic projects
- Academic paper: RNA structure prediction using deep learning
- Developed and implemented machine and deep learning models for RNA-related research, using frameworks such as PyTorch, PyTorch Geometric, Keras, TensorFlow, Scikit-learn and Pandas

Teaching & Industrial Experience

Teaching Assistant — IUST University
School of Computer Engineering — Sept 2022 - Jan 2026

- **Fundamentals of Programming** - Instructor: Dr. Mehrdad Ashtiani - Spring 2025
- **Advanced Programming** - Instructor: Dr. Marzieh Maleki - Spring 2025
- **Computer Architecture** - Instructor: Dr. Mehdi Hosseini Monazzah - Spring 2025
- **Design and Analysis of Algorithms** - Instructor: Dr. Farzaneh Ghayour Baghbani - Spring 2025
- **Operating system lab** - Instructor: Dr. Reza Entezari-Maleki - Spring 2025
- **System Analysis and Design** - Instructor: Dr. Mehrdad Ashtiani - Fall 2024
- **Formal Languages and Automata Theory** - Instructor: Dr. Farzaneh Ghayour Baghbani - Spring 2024
- **Principles of Database Design** - Instructor: Dr. Hossein Rahmani - Spring 2024
- **Fundamentals of Programming** - Instructor: Dr. Tayebe Rafiei - Fall 2022

Software Engineer Intern — System Group, Tehran
Back-End Developer Internship — Summer 2024

- **Technologies:** C# and .NET Framework

Projects

FaceClass — IUST University
Computer Vision Course Project – GitHub — Summer 2025

- Designed and implemented a computer vision system for classroom analysis, including attendance tracking, emotion recognition, and attention scoring.
- Integrated multiple models (YOLO, RetinaFace, ArcFace, MediaPipe) for face detection, recognition, and behavioral analysis.
- Developed a Flask-based interactive dashboard with real-time video processing, spatial heatmaps, and comprehensive reporting.

NoCodi.ir — IUST University
Software Engineering Course Project – Nocodi.ir — Spring 2025

- Developed a responsive website using React.js and Django REST Framework
- Designed and developed a responsive frontend using React.js, leveraging Redux for state management and Material-UI for a consistent, user-friendly interface – GitHub
- Built a RESTful API backend with Django REST Framework, incorporating JWT authentication, role-based access control, and PostgreSQL for data persistence – GitHub

Seven Apply — IUST University
System Analysis and Design Course Project — Spring 2024

- Built a full-stack website with React.js frontend and Django backend.
- Developed the frontend with React.js, implementing component-based architecture and integrating REST APIs for dynamic data rendering – GitHub
- Implemented the backend with Django, including database schema design, API endpoints, and user authentication modules – GitHub

Domain-Specific Language for Clustering Algorithms — IUST University
Compiler Design Project – GitHub — Spring 2024

- Designed and implemented a DSL to simplify data clustering workflows using ANTLR
- Supported multiple clustering algorithms (K-Means, DBSCAN, Spectral, Agglomerative)
- Built custom grammar and listener to parse DSL commands and generate AST

Volatility Modeling for Crypto Asset Allocation — IUST University
Algorithmic Trading Course – GitHub — Spring 2024

- Estimated crypto asset volatility using GARCH, EGARCH, FIGARCH, and statistical estimators
- Optimized portfolio weights using Black-Litterman model to maximize Sharpe ratio

Naïve Bayes Text Classification IUST University
Artificial Intelligence Course – GitHub Fall 2023

- Built a complete text classification pipeline using the Naïve Bayes algorithm
- Performed text preprocessing (tokenization, normalization) and feature extraction
- Trained and evaluated model on labeled datasets; generated predictions on unseen data

XV6 System Call and OS Kernel Development IUST University
Operating Systems Course – GitHub Fall 2023

- Developed a Unix-like educational OS kernel using C and x86 Assembly
- Implemented process management: creation, scheduling, and termination
- Extended XV6 by adding threading support in C

Honors & Awards

Among top 25% in My Class in GPA(last two years:17.37/20) Sept 2021 - Present
School of Computer Science, IUST

- Class of 110 students

Ranked Within the Top 0.5% in Iranian University Entrance Exam Spring 2025
Mathematics and Physics majors

- Ranked **175** among 127000 students

Skills

- **AI & Machine Learning:**
  Frameworks & Libraries: PyTorch, PyTorch Geometric, TensorFlow, Keras, Scikit-learn, OpenCV, NumPy, Pandas, Matplotlib, Hugging Face.
  Core Concepts: Deep Learning (CNNs, RNNs, Transformers), Large Language Models (LLMs), Natural Language Processing (NLP), Computer Vision, Medical Imaging
- **Web Development & Programming:**
  Languages: Python, Go, C, C++, C#, JavaScript, TypeScript, SQL.
  Backend: FastAPI, Django, Fiber (Go), GORM.
  Frontend: React.js, HTML5, CSS3.
  Databases: PostgreSQL, MySQL
- **DevOps & Tools:** Git, Docker, Linux (Ubuntu), Bash, CI/CD, Postman, Terraform

Selected Courses

- Algorithms (A+)
- Computational Intelligence (A)
- Microprocessor and Assembly Languages (A)
- Signals and Systems (A)
- Engineering Probability and Statistics (A)
- System Analysis and Design (A)
- Operating Systems (A−)

Certificates

Finalist – Irancell Labs Artificial Intelligence Hackathon Sept 2023
Certificate available on Quera.org

- Selected as a finalist for demonstrating strong skills in developing and optimizing AI models.

Learn Bioinformatics From Scratch (Theory & Practical) Summer 2025
Online course available at Udemy.com

- A comprehensive course tailored to help learners from academic and professional backgrounds master bioinformatics concepts and effectively analyze biological data.

ZeroToMastery - PyTorch for Deep Learning Bootcamp Zero to Mastery Spring 2025
Online course available at zerotomastery.io

- A step-by-step PyTorch course that teaches deep learning through a 3-part real-world project, building skills and a portfolio to qualify for deep learning engineer roles.

TensorFlow: Basic to Advanced - 100 Projects in 100 Days Summer 2025
Online course available on Udemy.com

- Covers TensorFlow from basics to advanced machine and deep learning, starting with its features and foundational concepts.

Introduction to Deep Learning with PyTorch Fall 2024
Certificate available on DataCamp

- Includes courses on Deep learning with PyTorch.

Introduction to Machine Learning May 2025
Certificate available on Kaggle

- Includes courses on Machine learning with scikit-learn.

CS50: Introduction to Computer Science Summer 2021
Certificate available on CS50

- Includes courses on Data Structures, Algorithms, SQL, Python, Web Development, CSS, HTML, and JavaScript.

Scored above 1000 on Codeforces and solved over 100 algorithm problems on LeetCode Dec 2024
Profile available on Codeforces.com

Profile available on leetcode.com

- Demonstrated strong problem-solving skills and proficiency in algorithms and data structures.

Standardized Tests

- **TOEFL iBT:** Planning to take on September 27th, 2025

References

Dr. Reza Entezari-Maleki Iran University of Science & Technology
Assistant Professor at Department of Computer Engineering

- Email: entezari@iust.ac.ir

Dr. Nasser Mozayani Iran University of Science & Technology
Associate Professor at Department of Computer Engineering

- Email: mozayani@iust.ac.ir

Dr. Mehrdad Ashtiani Iran University of Science & Technology
Associate Professor at Department of Computer Engineering

- Email: m_ashtiani@iust.ac.ir