



Mostafa Kermani Nia

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Education

School of Electrical and Computer Engineering, University of Tehran

B.SC. IN COMPUTER ENGINEERING

- GPA: 19.71/20

Tehran, Iran

Sept 2022 – Present

National Organization for Development of Exceptional Talents (NODET)

DIPLOMA IN MATHEMATICS AND PHYSICS

- GPA: 19.90/20

Karaj, Iran

Sept 2018 – May 2022

Experience

MOMIS (Telegram Mini-App Gaming Platform)

CO-FOUNDER, DEVELOPER & MARKETING STRATEGIST

- Led development, design, and marketing strategies for a skill-based Telegram gaming platform, fostering community growth.

Remote

April 2025 – Present

Engineering Probability and Statistics

CHIEF TEACHING ASSISTANT

- Managed and coordinated TA activities Under supervision of Prof. Abdol-Hossein Vahabie.

University of Tehran

July 2025 – Present

Machine Learning

TEACHING ASSISTANT

- Under supervision of Prof. Mostafa Tavassolipour and Prof. Mohammadreza Abolghasemi Dehaqani

University of Tehran

Sept 2024 – Sept 2025

Machines and Language Theory

TEACHING ASSISTANT

- Under supervision of Prof. Hassan Mousavi

University of Tehran

Sept 2024 – Sept 2025

ACM student chapter

CORE MEMBER

- Managed collaborative projects and programming competitions such as ICPC, enhancing teamwork.

University of Tehran

July 2024 – Sept 2025

Probability and Statistics

TEACHING ASSISTANT

- Under supervision of Prof. Abdol-Hossein Vahabie and Prof. Mostafa Tavassolipour

University of Tehran

July 2024 – Feb 2025

Introduction to Computing Systems and Programming

TEACHING LABORATORY ASSISTANT

- Under supervision of Prof. hadi moradi and Prof. Mahmoud Reza Hashemi

University of Tehran

Sept 2023 – Feb 2025

Fundamentals of programming

TEACHING ASSISTANT

- Under supervision of Prof. Mohammad Javad Dousti

University of Tehran

Jan 2024 – July 2024

Discrete Mathematics

TEACHING ASSISTANT

- Under supervision of Prof. Siamak Mohammadi

University of Tehran

Jan 2024 – July 2024

Honors

- **Top Student:** Ranked 1st among all Computer Engineering B.Sc students of the 2022 entry cohort, maintaining the top rank for 6 consecutive semesters.
- **National University Entrance Exam:** Being in (Top 0.6%) in Nation-wide Iranian University Entrance Exam in Mathematics and Physics (Summer 2022).
- **Physics Olympiad:** Silver medal at Iranian National Olympiad in Physics (Summer 2021).

Research Interests

ARTIFICIAL INTELLIGENCE

- DL, RL, ML; with special interests in Quantum ML and Neuro AI

COMPUTER VISION

- Object Detection, Image Classification, Feature Extraction

FORMAL METHODS AND VERIFICATION

- Mathematical Logic

DATA SCIENCE

- Data Processing, Statistical Analysis, Data Visualization

Related Courses

University of Tehran

- MACHINES AND LANGUAGE THEORY, GRADE: 20/20
- STATISTICS AND PROBABILITIES (PYTHON) , GRADE: 20/20
- ARTIFICIAL INTELLIGENCE (PYTHON), GRADE: 18.5/20
- SIGNALS AND SYSTEMS (MATLAB) , GRADE: 20/20
- ENGINEERING MATHEMATICS (MATLAB), GRADE: 20/20
- PHYSICS 1 & PHYSICS 2 , GRADE: 20/20
- MACHINE LEARNING (PYTHON), GRADE: 20/20
- DATA STRUCTURES AND ALGORITHMS (PYTHON, CPP), GRADE: 20/20
- DISCRETE MATHEMATICS, GRADE: 20/20
- ADVANCED PROGRAMMING (C, CPP), GRADE: 20/20
- COMPUTER ARCHITECTURE (VERILOG), GRADE: 19.6/20
- ENGLISH LANGUAGE , GRADE: 20/20

Skills

Programming

Advanced: C/C++, Python, Matlab, Verilog

Intermediate: LaTeX, Javascript, HTML/CSS

Libraries And Databases

SQL, MongoDB, Pandas, NumPy, scikit-learn, TensorFlow, Matplotlib

Soft Skills

Teamwork, Leadership, Teaching (Three years of teaching experience), Communication

Projects

Course Projects related to ML and Data science

Speaker ID and Gender Classification

A machine learning project for speaker identification, gender classification, and voice clustering using audio feature extraction, preprocessing, and models like SVM, KNN, XGBoost, and clustering techniques.

Jupyter Notebook (GitHub)

RF learning and LSTM

Part I- Reinforcement Learning and Deep Q Learning
Part II- Recurrent Neural Network (RNN) and Long short-term memory (LSTM)
Part III- Search Algorithms (A* search, Minimax search, DFS, BFS, UCS, Csp problem)

Jupyter Notebook (GitHub)

Quantum NNs and Unsupervised Learning

part I- Unsupervised learning methods (K-means, Hierarchical Clustering, and DBSCAN) are used
Part II- Supervised learning methods (DT, RF with entropy and Gini impurity) are used
Part III- A Quantum NN is built and trained.

Jupyter Notebook (GitHub)

Deep learning model initialization schemes

Xavier Glorot and Kaiming He initialization schemes are compared based on their papers

Jupyter Notebook (GitHub)

Unsupervised learning algorithms

KNN, SVM, GBoost and XGBoost are used in this project

Jupyter Notebook (GitHub)

AI Optimizers and Imbalance dataset

SGD+momentum, Adagrad and RMSprop optimizers are explained and some methods for work with imbalance datasets (like SMOTE) are implemented

Jupyter Notebook (GitHub)

Natural language processing

Preliminary NLP methods are used in this project

Python (GitHub)

Telegram channel auto admin

A dedicated Telegram channel was created to track dollar prices, incorporating automated updates and historical data from verified sources with minimal management required

Python (GitHub)

Web Data analyst

Connect web socket to a website, receive and analyze its data and save them in mongoDB

mongoDB, Python (GitHub)

Course Projects related to image and signal processing

Steganography And Classification

1. Steganography in Images (Message Encoding and Decoding) | 2. IC Recognition in PCB Images
3. Diabetes Prediction using Machine Learning in MATLAB

MATLAB (GitHub)

License Plate Detection

The numbers and letters on the license plates in English and Farsi were identified from the video and then you got the average speed of the car.

MATLAB (GitHub)

Pretrained CNNs and GAN implementation

VGG16 and ResNet50 pre-trained CNNs are used with and without data augmentation in part one. Then a Deep Convolutional Generative Adversarial Network (GAN) is created for the CIFAR-10 dataset.

Jupyter Notebook (GitHub)

License Plate Detection

The numbers and letters on the license plates in English and Farsi were identified from the video and then you got the average speed of the car.

MATLAB (GitHub)

Frequency Encoding

MATLAB-based Fourier analysis and frequency-domain message encoding.

MATLAB (GitHub)

Image recognition

Image recognition with Bayesian estimation

Jupyter Notebook (GitHub)

Projects related to software and Operating System development

XV6 System Projects

Part 1 : KernelBasics-XV6 | Part 2 : Syscall-Development-XV6 | Part 3 : Process-Scheduling-XV6
Part 4 : Threading-Mechanisms-XV6 | Part 5 : Memory-Management-XV6

C, assembly (P1) (P2) (P3) (P4) (P5)

Fantasy Football Game

It's a game that implemented with c++

C++, Makefile (GitHub)

Mini Uber

A simple simulation of Uber logic

C++, Makefile (GitHub)

professional telegram bot

inline button, provided keyboard, forces join in channel, conversation bot and some other features are used in this project

Python (GitHub)

TURTIX game

SFML library is used to build this game

C++, Makefile (GitHub)

Court piece game

A simulation of Hokm game

C (GitHub)

UT TUTY

A simple form of a Twitter app is built

C (GitHub)

Languages

Persian Native

English Upper-intermediate proficiency

Arabic Basic