Mostafa **Kermani Nia**

mkermani1383@gmail.com | mostafa-kermaninia.github.io | mostafa-kermaninia | mostafakermaninia

Education

School of Electrical and Computer Engineering, University of Tehran — *Tehran, Iran*

B.Sc. in Computer Engineering — *Sept 2022 – Present*

- GPA: 19.76/20

National Organization for Development of Exceptional Talents (NODET) — *Karaj, Iran*

Diploma in Mathematics and Physics — *Sept 2018 – May 2022*

- GPA: 19.90/20

Academic & Teaching Experience

Engineering Probability and Statistics — *University of Tehran*

Chief Teaching Assistant — *July 2025 – Present*

- Managed and coordinated TA activities under the joint supervision of Prof. Abdol-Hossein Vahabie and Prof. Behnam Bahrak.

Machine Learning — *University of Tehran*

Teaching Assistant — *Sept 2024 – Present*

- Serving as Final Project TA for joint UGrad/Grad course (Present); previously designed and graded the SVM assignment for Grad course (Sept 2024 - Sept 2025). Supervised by Prof. B. Najjar Araabi, Dr. M. Abolghasemi, & Dr. M. Tavassolipour.

Compiler and Programming Languages (PLC) — *University of Tehran*

Teaching Assistant — *Sept 2025 – Present*

- Responsible for designing and grading assignments; under supervision of Dr. Fatemeh Ghassemi Esfahani.

Operating Systems (OS) — *University of Tehran*

Teaching Laboratory Assistant & Teaching Assistant — *Sept 2025 – Present*

- Designed two assignments, and designed and graded one lab project; Under supervision of Prof. Mehdi Kargahi

Machines and Language Theory — *University of Tehran*

Teaching Assistant — *Sept 2024 – Present*

- Responsible for designing and grading assignments (Present) supervised by Dr. Hossein Hojjat and Dr. Hassan Mousavi; previously TA under supervision of Dr. Mousavi (Sept 2024 - Sept 2025).

ACM student chapter — *University of Tehran*

Core Member — *July 2024 – Sept 2025*

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

Probability and Statistics — *University of Tehran*

Teaching Assistant — *July 2024 – Feb 2025*

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

Introduction to Computing Systems and Programming — *University of Tehran*

Teaching Laboratory Assistant — *Sept 2023 – Feb 2025*

- Under supervision of Prof. Hadi Moradi and Dr. Mahmoud Reza Hashemi

Fundamentals of programming — *University of Tehran*

Teaching Assistant — *Jan 2024 – July 2024*

- Under supervision of Dr. Mohammad Javad Dousti

Discrete Mathematics — *University of Tehran*

Teaching Assistant — *Jan 2024 – July 2024*

- Under supervision of Prof. Siamak Mohammadi

Professional & Entrepreneurial Experience

ONTON (Web3 Community Activation Layer on TON) — *Remote*

Co-founder & Executive Manager — *Nov 2025 – Present*

- Leading executive operations and strategic initiatives for a major Web3 platform on TON blockchain. Responsibilities include directing technical infrastructure strategy, developing scalable monetization models through large-scale ticketed events, and driving community revitalization strategies for over 900K users.

MOMIS (Telegram Mini-App Gaming Platform) *Remote*

Co-founder, Developer & Product Strategist *April 2025 – Present*

- Spearheaded the end-to-end development and launch of a skill-based gaming platform on Telegram engaging thousands of users. Designed game mechanics, implemented anti-cheat measures, and devised SocialFi strategies to foster organic community growth and user retention.

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:** Ranked in the Top 0.6% in Nation-wide Iranian University Entrance Exam (Summer 2022).
- **Physics Olympiad:** Silver medal at Iranian National Olympiad in Physics (Summer 2021).

Research Interests

Scalable & Dependable Distributed Systems: Interested in the architectural challenges of building robust, high-throughput decentralized platforms. My hands-on experience scaling Web3 infrastructure (ONTON) motivates my interest in optimizing reliability and performance in large-scale networks.

Machine Learning in Dynamic Environments: Leveraging a strong statistical foundation (Chief TA in Probability) to apply techniques like Reinforcement Learning and Deep Learning to complex, interactive systems—from optimizing game agents to developing real-time anti-cheat security mechanisms.

Computational Social Science & HCI: Utilizing large-scale data analysis to understand user behavior within social networks and gaming platforms. Interested in designing data-driven incentive mechanisms and improving user interaction in complex sociotechnical systems.

Skills

Programming Languages	Python, C/C++, Java, JavaScript, SQL, MATLAB, Verilog
Distributed Systems & Databases	HBase, ClickHouse, PostgreSQL, MongoDB, ElasticSearch, Memcached, PuppyGraph
Web Development & DevOps	Next.js, HTML/CSS, Supabase, Prometheus, Git, Trello, LaTeX, ...
Machine Learning Libraries	TensorFlow, scikit-learn, Pandas, NumPy, Matplotlib, ...

Projects

Speaker ID and Gender Classification **Jupyter Notebook** (GitHub)
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.

RL, RNN, and Search Algorithms **Jupyter Notebook** (GitHub)
Implemented Deep Q-Learning (DQN), RNN/LSTMs, and foundational search algorithms (A*, Minimax, BFS/DFS).

Quantum NNs and Unsupervised Learning **Jupyter Notebook** (GitHub)
Compared unsupervised (K-means, DBSCAN) and supervised (DT, RF) methods; built a foundational Quantum NN.

Deep learning model initialization schemes **Jupyter Notebook** (GitHub)
Xavier Glorot and Kaiming He initialization schemes are compared based on their papers

Web Data analyst **mongoDB, Python** (GitHub)
Connect web socket to a website, receive and analyze its data and save them in mongoDB

Steganography And Classification **MATLAB** (GitHub)
Developed algorithms for image steganography, IC recognition in PCBs, and ML-based diabetes prediction.

Pretrained CNNs and GAN implementation **Jupyter Notebook** (GitHub)
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.

License Plate Detection **MATLAB** (GitHub)
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.

XV6 System Projects **C, assembly** (P1) (P2) (P3) (P4) (P5)
Part 1 : KernelBasics-XV6 | Part 2 : Syscall-Development-XV6 | Part 3 : Process-Scheduling-XV6 |
Part 4 : Threading-Mechanisms-XV6 | Part 5 : Memory-Management-XV6

Interests

Classical Guitar (11 years of practice; performed at local festivals & competitions)

Languages

Persian Native
English Upper-intermediate proficiency