

# Mohammad Meftahi

AI and Backend Engineer



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## About me

A passionate AI and Backend Engineer, I thrive on building reliable and intelligent systems that solve real-world problems. My journey, starting in 2019, includes developing full-stack educational platforms, enhancing computer vision for humanoid robots at the MRL Research Center, and collaborating on research with universities in Iran and Norway. I believe in taking full ownership of my work and flourish in collaborative teams dedicated to creating products we can all be proud of. As a graduate of Qazvin Azad University and an alumnus of **SAMPAD**, I am a dedicated problem-solver, always eager to learn and contribute to a shared vision.

## Skills

- **Programming Languages:** Python, C#, JavaScript / TypeScript, SQL
- **Databases:** SQL Server, PostgreSQL, SQLite, T-sql, MongoDB
- **Machine Learning:** PyTorch, Scikit-learn, Keras
- **Data & Scientific Computing:** Pandas, NumPy, SciPy
- **Computer Vision:** OpenCV, YOLO
- **Frameworks:** ASP.NET Core, NestJS (Node.js)
- **ORM & Auth:** Entity Framework Core, Prisma, Identity, JWT
- **DevOps & Tools:** Git, Docker, Conda, Jupyter Notebook
- **API & Protocols:** RESTful APIs, Payment Gateway Integration, SMS Gateway APIs, GraphQL, WebSocket

## Languages

Persian — Native/Bilingual

English — Fluent

## Work Experience

### Freelance Software Engineer (AI & Backend)

Self-Employed

2022 – Present

- Undertook contract-based projects to design and build custom software solutions for individual clients and small businesses.
- Directly applied skills in **Computer Vision** and **Machine Learning** to deliver practical AI features, such as automated license plate recognition.
- Developed and maintained full-stack web applications using the **.NET ecosystem (ASP.NET Core)** for systems like clinic and educational management.
- Served as the primary technical point of contact, translating client needs into functional software requirements and ensuring clear communication.

### Robot Development Researcher

MRL-Humanoid

05/2022 – 07/2024 | Qazvin, Iran

- Pioneer in integrating deep learning into computer vision systems, reducing image transmission latency by 30% and improving attacker detection accuracy by 25% for humanoid soccer robots
- Improved overall team coordination by enabling faster, more accurate on-field decisions.

### Software Engineer (Backend & AI)

Noteam

09/2019 – 04/2024 | Tehran, Iran

- Developed and maintained three large-scale educational platforms using the **ASP.NET Core** ecosystem, successfully serving over **1,000** concurrent students and instructors.
- Engineered and integrated **machine learning models** to deliver intelligent features, including an AI-powered major selection system (trained on 3,000+ records) and a recommendation engine for student performance analytics.
- Implemented real-time communication features (**video & chat**) for a remote counseling platform using **WebRTC** and **SignalR**, significantly improving student-advisor engagement.
- Architected scalable backend services and robust database schemas in **SQL Server** to ensure high performance and data integrity across all platforms.

### Customer Affairs

Mobile140

01/2025 – Present | Tehran, Iran

## Featured AI & Engineering Projects

### AI-Powered University Major Selection System

- Developed a data-driven system using **ASP.NET Core** to guide students in selecting university majors by analyzing national entrance exam results and personal evaluations.
- Trained and integrated a **Machine Learning model** on a historical dataset of over **3,000 student records** (2011-2019) to provide personalized, AI-powered major recommendations.
- Engineered a multi-stage process including student registration, psychological assessment, data analysis, and final report generation.
- **Key Achievement:** Created a system that replaces traditional guesswork with a data-driven approach, significantly improving the quality and personalization of academic guidance.

**Technologies:** ASP.NET Core, Machine Learning, SQL Server, JavaScript

### Parking Management System with AI License Plate Recognition

- Architected a full-stack parking management system using **NestJS** (Backend) and **Vue.js** (Frontend) to automate vehicle access for residential complexes.
- Trained and deployed a custom **Computer Vision model** on a dataset of **5,000+ images** to achieve robust license plate detection in real-world parking environments.
- Engineered a dedicated **OCR model**, trained on **20,000+ character images**, to ensure high-precision recognition of license plate numbers.

- **Key Achievement:** Delivered a production-ready system that provides seamless, automated access control through custom-trained, highly accurate AI.

**Technologies:** NestJS (Node.js), Vue.js, PostgreSQL, Computer Vision, OCR

#### Cooperative Autonomous Navigation (Research Project)

- Engineered a high-fidelity simulation using **SUMO** & **OMNeT++** to analyze complex urban traffic scenarios for autonomous vehicles.
- Designed and implemented intelligent decision-making algorithms and cooperative navigation strategies to enhance traffic flow and safety.
- Utilized **Python** for automating scenarios, extracting performance data, and conducting in-depth analysis of vehicle behavior.
- **Key Achievement:** Successfully validated that the developed cooperative strategies led to a measurable enhancement in navigation reliability and traffic efficiency.

**Technologies:** Python, SUMO, OMNeT++, TraCI, Veins

#### Python for Data Science Workshop (Instructor & Designer)

- Designed and led an intensive 3-day hands-on workshop at Qazvin Azad University, covering the end-to-end data science pipeline.
- Delivered practical sessions on **Python**, data analysis (**Pandas, NumPy**), and machine learning (**Scikit-learn, PyTorch**).
- **Key Achievement:** Successfully equipped participants with the practical skills to independently tackle real-world data science projects.

**Technologies Covered:** Python, Conda, Jupyter, Pandas, Scikit-learn, PyTorch

## Additional Software Engineering Projects

#### Academic Counseling & Progress Tracking Platform:

Built a full-stack educational platform with **ASP.NET Core** and **Vue.js**, featuring real-time video/chat using **WebRTC** and **SignalR**.

#### Dental Clinic Management System:

Developed a comprehensive clinic management system (**ASP.NET Core**) with a patient portal and integration for proprietary dental radiology devices.

#### Advanced Online Examination & Analytics System:

Created a large-scale online exam platform (**ASP.NET Core**) with a custom recommendation engine to provide data-driven student feedback.

#### Adaptive Cruise Control (ACC) Framework:

Designed a Python-based framework to enhance ACC systems by analyzing real-time sensor data for improved predictive control.

#### Dormitory Management System:

Developed a modular management system (**ASP.NET Core**) featuring online payments, room reservations, and SMS notifications.

#### Freelancer Client & Invoice Management:

Built a client management tool with PDF invoicing, implemented in two separate versions using **NestJS/Vue.js** and **ASP.NET Core**.

#### Restaurant Management System:

Developed a local-first restaurant management system using **ASP.NET Core** and **SQL Server** for order, menu, and invoice management.

## Education

#### B.Sc. in Computer Engineering

Qazvin Islamic Azad University  
09/2020 – 09/2024 | Qazvin, Iran

Worked at the robotics research and development center and conducted AI workshops during studies.

#### High School Diploma

National Organization for Development of Exceptional Talents (Sampad)  
2014 – 2020 | Alborz, Iran

Shahid Bahonar 5 (2014 - 2017) - Shahid Soltani 5 (2017 - 2020)  
Natural Sciences