

# Hesam Sheikh Hassani

AI Student, Research Fellow

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## EDUCATION

University of Bologna

M.Sc. Artificial Intelligence

K. N. Toosi University of Technology

B.Sc. Computer Engineering

Bologna, Italy

(Expected) Graduation Date: Sep 2025

Tehran, Iran

Graduation Date: Sep 2022

## WORK EXPERIENCE

Towards Data Science

Remote

AI Technical Writer

Mar 2024 - present

- Authoring and publishing articles on major publications such as **Towards Data Science**, analyzing cutting-edge **AI research papers** attracting over **100,000** views collectively, while **implementing** self-motivated machine learning projects related to Large Language Models, Generative AI, Natural Language Processing, AI Agents, etc.
- Actively publishing engaging **LinkedIn** content, simplifying complex deep learning concepts and AI innovations, successfully securing over **500,000** impressions within 90 days and achieving a **Top Machine Learning Voice** badge.

University of Bologna

Bologna, Italy

AI Software Developer

Nov 2023 - May 2024

Contributed to the integration of AI solutions within the AI-on-Demand platform, a key part of the EU-funded AI4Europe project, by re-engineering 60% of APIs to align with regulatory standards.

Pooya Fanavaran Kosar (PFK)

Tehran, Iran

Machine Learning Engineer

Jun 2021 - Jul 2023

- Led the engineering of AI industrial solutions, by employing **problem-solving** techniques for deploying real-time **computer vision** applications while valuing cooperative teamwork and communication.
- **Major participation** in AI development of Agricultural Sorting Machines, achieved **98%** classification accuracy and **91% mAP** in detection, boosted inference speed by **800%** via GPU optimizations.
- **Key role** in crafting precise vehicle feature recognition models for ITS and successfully identified **13** colors and **521** models with **97.5%** color classification accuracy, using carefully architected CNNs.
- **Directed** a diverse team to develop an OCR model for license plate recognition, achieving **96.5% mAP** in character detection and **98%** classification accuracy.

## LANGUAGE SKILLS

English

Native or bilingual proficiency

German

Limited working proficiency

## TECHNICAL SKILLS

Machine Learning Tools

Tensorflow, PyTorch, Numpy, Pandas, Scikit-Learn, Keras, LangChain, CUDA, TensorRT

Development Tools

Python, AWS, SQL, NoSQL, PostgreSQL, C++, Elasticsearch, Linux, Git, Docker, Jupyter

Machine Learning Algorithms

CNN, YOLO, LSTM, GRU, Decision Trees, XGBoost, Random Forests, SVM, Regression, Clustering, Transformers, Genetic Algorithms, LLM

## PROJECTS

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### **Synthetic Dataset Creation Using Llama 3.1** ([link](#))

*Aug 2024*

Devised and implemented an approach using *Llama 3.1* and *Nvidia Nemotron 4* to generate and validate a synthetic dataset of **322** Git commands in natural language, targeting **instruction fine-tuning** for LLMs, and assessed their quality through a reward model. Successfully integrated and published the refined dataset on HuggingFace, enhancing resources available for AI research and **open-source** development.

### **Collaborative AI Agents for Job Applications** ([link](#))

*Jul 2024*

Engineered a team of AI agents with specialized roles to dynamically modify CV and Cover Letter based on a job application, using CrewAI and **Ollama** for running LLMs locally. This innovation demonstrated significant automation success using LLM-powered AI agents.

### **Flappy GPT** ([link](#))

*May 2024*

Explored the potential of GPT-4-turbo as a game engine, creating a text-based simulation of Flappy Bird using LangChain and prompt engineering, analyzing the LLM in terms of being consistent with the game logic and rules.