



Farhad Hoseyni

AI & Robotics Engineer

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Enschede, Netherlands
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Education

University of Twente

- Master's of AI and Robotics
- Sep. 2025 - present

Enschede, Netherlands

K. N. Toosi University of Technology

- Bachelor's of Electrical and Control Engineering
- Minor of Computer Engineering
- Sep. 2019 - Sep. 2024

Skills

Python/C++

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PyTorch

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NLP/LLM

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VLM/VLA

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ROS2

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Embedded System

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Control theory

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Matlab

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Deep Learning

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Computer Vision

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Generative AI

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SLAM

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Industrial Robotics

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Agentic AI/ Context Eng.

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Languages

English

C1

Dutch

A1 (In progress)

Summary

AI and Robotics Engineer specializing in deep learning, image processing, and scalable AI solutions. Adept at bridging multidisciplinary teams to achieve complex project goals. Published researcher passionate about Generative AI and continuous technological innovation.

Experience

Fraunhofer Innovation Platform

Enschede, Netherlands

Computer Vision And Robotic Engineer

Oct. 2025 - Present

- Developed and deployed a real-time AI-based monitoring system for detection of battery defects, achieving a 95% recall rate and reducing manual inspection cycle times by 50%.
- Programmed Yaskawa and Universal Robots arms to automate assembly and disassembly processes, increasing assembly throughput by 20%.
- Adaptive manipulation with robotic arms and ZIVID depth cameras, achieving sub-millimeter precision.
- Gathering data and developing VLA controllers to do flexible assembly based on the operator's textual instructions and visual feedback.

Smartory Labs

Istanbul, Turkey

AI and Computer Vision Engineer

Mar. 2023-Sep.2025

- Developed an AI assistant agent for dentists for radiography diagnosis.
- 2D and 3D image processing modules alongside an LLM module to automate the diagnosis and reporting of dental pathologies, identifying 60% of cavities.

APAC Research Group

Jun. 2022 - Sep. 2025

Technical Manager & Computer Vision Engineer

- Led the end-to-end development and hardware integration of an AI triage system for intracranial hemorrhage detection, cutting diagnostic times by 30% and misdiagnoses by 50%.
- Built core medical imaging pipelines using explainable AI (XAI) techniques, alongside open-source annotation tools and structured data protocols to ensure transparent clinical decision-making.

Projects

Mobile Robot Tracking & SLAM Integration

Jan. 2026 - present

Develop, simulated, and deployed autonomous navigation pipelines for quadruped Unitree Go2 and RELBot platforms, integrating ROS2, FPGA, and Jetson Nano hardware to process LiDAR and visual sensors for real-time spatial mapping and navigation.

Generative AI and VLA Models for Robots

Sep.2025 - Nov. 2025

Deployed SmolVLA models on a LeRobot SO-101 arm to assess prompt ambiguity, doubling manipulation success rates. Developed a U-Net/ViT Mean Flow Matching model for action generation and benchmarked it against standard diffusion methods, increasing the inference speed by 10 times.

Class-Agnostic object counting from self-supervision

Jan. 2026 - Mar. 2026

Develop an AI-based architecture for zero-shot object counting using YOLO, SAM, DINO, and CLIP models, reducing the absolute counting error by 50%.

Machine learning based fault detector for industrial valve

Aug. 2024 - Dec. 2024

Machine learning-based fault detection in industrial valves and motor bearings using SVM and random forest: case studies on DAMADICS and CWRU datasets.

Publications

• Benchmarking class activation map methods for explainable brain hemorrhage classification on hemorica dataset

• Advanced deep Learning-Based approach for tooth detection, and dental cavity and restoration segmentation in X-Ray images

• AugmenTory: A Fast and Flexible Polygon Augmentation Library