

Mohammadmahdi Gheisari

Computer Vision / ML Engineer | Real-time Inference | Industrial Inspection

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Summary

AI & Computer Vision Engineer with a strong statistical foundation and leadership experience as a former CTO. Specialized in Industrial Intelligence and real-time inference to build robust detection systems for manufacturing environments (e.g., thermography), reducing inspection setup times by >95%. Proven track record of shipping production-grade models using PyTorch and OpenCV, bridging the gap between R&D prototypes and scalable field deployments.

Skills

ML/CV: PyTorch, scikit-learn, OpenCV, one-shot/low-data learning, evaluation & error analysis

MLOps/Deploy: Docker, reproducible training & inference, deployment packaging

Data: NumPy, pandas, SQL

Systems: Linux, Git

Experience

Therness S.r.l — Turin, Italy

Chief Technology Officer (AI & Data) / 2025 – 2026

- Production Deployment: Shipped 2 real-time and 3 post-processing models for welding defect detection, integrating them into a Django/WebSocket service layer.
- Impact: Re-engineered the inspection workflow to reduce local setup times by >95% (from 30 mins to <1 min) for field operators.
- Edge Engineering: Deployed lightweight inference architectures on GPU-powered edge devices using Docker, ensuring reliable on-premise performance.
- Leadership: Led a cross-functional team of 6 engineers, defining acceptance criteria and driving customer-facing technical demos.

R&D Scientist (Computer Vision) / 2024 – 2025

- Algorithm Development: Developed initial prototypes for thermography-based defect detection, focusing on one-shot and low-data learning techniques for limited labeled datasets.
- Data Pipeline: Built rigorous data validation, preprocessing, and error-analysis workflows to benchmark model performance on real-world thermal video runs.

Ades Consulting & Service Srl — Turin, Italy

Data Scientist Intern (Weld Path Optimization) / 2024 – 2025

- Developed a robotic path planning pipeline for welding, achieving an ~86% path match rate against reference trajectories using STL mesh processing.
- Built custom visualization and debugging tools (Python) to accelerate iteration cycles for stakeholder reviews.

Shomal Market Insights — Karaj, Iran

Statistical Analyst (Market Research) / 2019 – 2020

- Optimized data processing workflows by rewriting performance-critical components in C++, increasing analysis speed and reliability for large survey datasets.
- Delivered statistical segmentation reports to support client decision-making.

University of Hormozgan (Engineering Department) — Bandar Abbas, Iran

Data Analyst Intern / 2016 – 2017

- Analyzed 5,000+ records across a 10-year dataset to identify key drivers of post-graduation employment outcomes.
- Delivered strategic interventions validated by simulation (+8.0%), resulting in a confirmed +8.4% post-implementation improvement in student placement rates.

University Projects

Politecnico di Torino — Turin, Italy

Master's Thesis — ML for Thermographic Analysis in Welding / Sep 2024 – Expected Mar 2026

In collaboration with Therness S.r.l.

- Built a thermographic analysis workflow and developed ML/DL models for welding defect detection and in-process quality monitoring.
- Designed CV preprocessing and real-time inference approach for deployment on an on-prem edge device. (Code/data not public due to company confidentiality.)

Politecnico di Torino — Turin, Italy

Distributed & Federated Learning (CIFAR-100) / Mar 2024 – Sep 2024

- Implemented and benchmarked distributed/federated training, evaluating accuracy, scalability, and communication cost across client settings.
- Prototyped efficiency techniques (layer freezing, adaptive local steps) for heterogeneous clients.

Education

Politecnico di Torino — Turin, Italy

M.Sc. in Data Science and Engineering | 2021 – Expected Mar 2026

University of Hormozgan — Bandar Abbas, Iran

B.Sc. in Applied Statistics | 2013 – 2017

Certifications

- Machine Learning and Deep Learning Specialization (8 courses) (DeepLearning.AI, Coursera) — 2023
- Google Data Analytics Professional Certificate (Google, Coursera) — 2022
- Introduction to Agile Development and Scrum (IBM, Coursera) — 2025
- Git Essentials (Packt, Coursera) — 2025

Languages

Persian (Native) | English (C1) | Italian (A2)