

Hossein Zolfaghari

AI/ML Engineer

Paris, France

Open to relocation

📞 (+33) 0753142705

✉️ hossein.xolf@gmail.com

🌐 [LinkedIn](#)

🐙 [GitHub](#)

About Me

Machine Learning Engineer with 5+ years of experience building and deploying AI solutions across cloud and edge devices. I specialize in multimodal deep learning, Generative AI, and MLOps, with a strong focus on delivering models that reliably move from prototype to production. I enjoy designing scalable pipelines, improving model performance, and collaborating with teams to turn complex ideas into practical, high-impact systems. I stay aligned with the latest AI advancements while keeping solutions simple, efficient, and production-ready.

Work Experiences

- Machine Learning Engineer** **2023 – 2025**
SESA Perpignan, France
 - Developed a hybrid multimodal machine learning model for large time-series datasets with 96% accuracy, improving forecasting performance and supporting decision-making system.
 - Implemented a YOLO-based computer vision service to monitor grape growth stages in vineyard imagery, enabling more accurate crop condition tracking and supporting decision maker software.
 - Contributed to an intelligent PV panel system that uses AI-based decision maker model to dynamically adjust panel orientation based on environmental and operational conditions, resulting in improving energy capture efficiency.
 - Designed and maintained a CI/CD pipeline using GitHub Actions and AWS ECR, enabling reproducible model deployment on edge devices (Raspberry Pi).
- Machine Learning Engineer** **2022 – 2023**
SATT AXLR Montpellier, France
 - Contributed to the design and deployment of a real-time AI service for cloud detection and motion estimation (speed and direction) in sky images, which improved prediction accuracy by 3%.
 - Worked on a YOLO-based object detection pipeline to identify raindrops and other visual artifacts in fisheye camera.
 - Built an interactive Grafana dashboard to monitor data pipelines, models outputs, and performance metrics.
- Machine Learning Engineer** **2022**
PROMES-CNRS Perpignan, France
 - Developed a high-precision solar irradiance forecasting model by applying advanced time-series techniques and feature engineering. The approach improved forecast accuracy by 5% over the previous model.
 - Created a sky-state estimation model using multi-modal environmental and imaging data, achieving over 90% classification accuracy.
- AI Engineer** **2020 – 2021**
DARVIZ Tehran, Iran
 - Built AI recommendation system serving 150K+ users with personalized content delivery.
 - Developed NLP pipeline for document processing handling 10K+ documents daily.
- Data Analyst** **2018 – 2020**
IUT Isfahan, Iran
 - Applied stochastic modeling and uncertainty quantification to build predictive models, improving accuracy by 25%.
 - Conducted comprehensive sensitivity and sampling analyses (Sobol indices, LHS) to evaluate model robustness and parameter impact, contributing to two publications, [1, 2].

Education

- University of Paris-Saclay** | M.Sc. in Computer Vision and Artificial Intelligence Paris, France | 2021 - 2022
Thesis: *Benchmarking Vision Transformers and CNNs for Multi-Modal Intra-Hour Solar Irradiance Forecasting.*
- Isfahan University of Technology** | M.Sc. in Engineering Isfahan, Iran | 2014 - 2017
- K.N.Toosi University of Technology** | B.Sc. in Engineering Tehran, Iran | 2009 - 2013

Technical Skills

- **Generative AI & LLMs:** Transformers, Multimodal AI, Agentic AI, LangChain, RAG, CrewAI, LangGraph, HuggingFace, Amazon Bedrock, Prompt & Context Engineering, Fine-Tuning
 - **ML Tools:** PyTorch, TensorFlow, Scikit-learn, OpenCV, CNN, LSTM, YOLO, Feature Engineering, Model Optimization
 - **MLOps & Deployment:** CI/CD (GitHub Actions), Docker, AWS (EC2, S3, ECR), GCP, MLflow, FastAPI, Flask, Git, Monitoring (Grafana, Zabbix), Edge Deployment (Raspberry Pi)
 - **Databases:** PostgreSQL, MongoDB, SQLite, MySQL
 - **Programming:** Python (+7 yrs), SQL
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Soft Skills

- **Leadership:** Taking ownership of projects, guiding technical decisions, and supporting teammates when needed. Experienced in working closely with cross-functional teams.
 - **Communication:** Able to explain complex ML ideas in a clear and practical way to both technical and non-technical audiences.
 - **Project Management:** Organized and reliable when managing multiple projects, setting priorities, and meeting deadlines.
 - **Problem-Solving:** Strong analytical mindset with a creative approach to finding solutions. Detail-oriented, committed to quality, and always learning new tools or methods to improve my work.
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Selected Certificates

- **Coursera** | **2023**, Generative AI with LLMs.
 - **AWS** | **2022**, AWS Cloud Practitioner.
 - **Udemy** | **2020**, Data Science and ML in Python.
 - **Coursera** | **2021**, Structuring ML Projects.
 - **Coursera** | **2019**, Neural Networks and DL with Python.
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Honors & Awards

- **Top 1%**, Nationwide M.Sc. entrance exam in engineering (Konkour), with more than 25,000 participants, 2013, Iran.
 - **Top 0.5%**, National entrance exam of Iran universities (Konkour), among more than 280,000 participants, 2009, Iran.
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Languages

- **Languages:** English: Fluent, French: Intermediate, Persian: Native