



Mohammad-Hossein Bahari

AI Expert



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Lausanne, Switzerland

Valid permit B (No sponsorship required)

Highlights

- 6+ years of work experience in applied deep learning with leading companies such as Honda, Valeo, Five AI
- Expertise in GenAI including NLP, RAG, Transformers and LLMs/VLMs
- Track record of end-to-end project execution from data preprocessing, model design and evaluation
- Several publications in top-tier AI conferences in generative AI and robustness
- Awarded Marie Skłodowska-Curie doctoral fellowship and consistently honored for academic excellence
- Invited as a guest speaker at Waymo, Fei-Fei Li vision lab, and Porsche
- Strong project management and team-work experience with a mission-driven mindset

Core Experiences

VITA Lab, EPFL, Lausanne, Switzerland [09.2018-10.2024]

AI Researcher

- Led end-to-end projects resulting in enhancing AI models' safety and robustness
- Developed foundation models for sequence prediction
- Improved sequence prediction utilizing LLMs, VLMs, and transformers
- Fine-tuned LLMs, and optimized prompts
- Developed adversarial attacks and synthetic data

Five AI (Bosch), Oxford, UK [06.2022-12.2022]

AI Engineer (Internship)

- Developed explainable AI solutions
- Implemented/analyzed various interpretability techniques
- Discovered model failures using provided explanations

Honda, Tokyo (remote), Japan [09.2018-10.2024]

AI Researcher

- Developed intention prediction methods to improve social robot's interactions
- Designed knowledge-based neural network solutions
- Developed comprehensive safety evaluation protocols

Valeo, Paris (remote), France [03.2022-06.2022]

AI Researcher

- Optimized a sequence prediction model
- Implemented distributed parallel training on multiple GPUs
- Designed graph-based models with attention mechanism

Skillsets

Machine learning:

Generative AI (LLM, VLM), RAG, Transformers, Computer vision, Robustness, Generalization, Interpretability, Knowledge-based AI

ML software:

Tensorflow, PyTorch, HuggingFace, LangChain
MLOps, CI/CD, Git
Docker, Kubernetes, Slurm, AWS, Azure

Software:

Python, C/C++, Matlab, CUDA, Bash

Soft skills:

- Fundamentals of entrepreneurship
By: EPFL Innovation Park (Business Concept)
- Foundations of project management
By: Coursera
- Team-work, great communication, Problem solver

Education

(PhD) Swiss Federal Institute of Tech. (EPFL),

Lausanne, Switzerland [09.2018-02.2024]

Computer Science

- Advisor: Prof. Alexandre Alahi
- Thesis: "Safeguarding deep trajectory forecasting models"

(BSc/MSc) Sharif University of Technology,

Tehran, Iran [09.2012-06.2018]

Electrical and Computer Engineering

- Thesis: "GPU implementation of 5G blocks"

Publications (simplified titles)

- "Knowledge-based neural networks for visual navigation", *Transportation Research part C (TRC)* 2021, [link](#)
- "Adversarial evaluation for sequence generation", *Transportation Research part C (TRC)* 2022, [link](#)
- "Synthetic data generation for autonomous driving", *CVPR* 2022, [link](#)
- "A comprehensive framework for generalization evaluation", *ECCV* 2024, [link](#)
- "Causal visual navigation of autonomous robots", Under review 2024, [link](#)
- "Certification for autonomous robots", *CVPR* 2025, [link](#)

Teaching and Mentoring

Springs 2019-2022	Deep Learning for Autonomous Vehicles (CIVIL-459) , EPFL, Lausanne, Switzerland <i>Instructor and course assistant (Main Instructor: Prof. Alexandre Alahi)</i>
Summer 2020 Summer 2021	Supervised 20 Interns for 9 projects , EPFL, Lausanne, Switzerland <i>Project manager and team lead</i>
2018-2024	Supervised 9 Master students , EPFL, Lausanne, Switzerland <i>Project manager and team lead</i>
Summer 2018	Introduction to TensorFlow for Machine Learning , Sharif university, Tehran, Iran

Honors and Awards

2018-2023	Awarded Marie Skłodowska-Curie Fellowship by the European Union for the doctoral degree
2018-2023	Accepted into EPFLinnovators program as a part of the Ph.D.
2018	Rank 1 st among 20 Electrical engineering master students, Sharif university
2015	Rank 5 th among 25,000 applicants in nation-wide entrance exam for MSc degree, Iran
2011	Rank 54 th among 300,000 applicants in nation-wide entrance exam for BSc degree, Iran,

Talks

Fall 2022	Waymo , San Francisco, US
Fall 2022	Stanford Vision and Learning Lab (Fei-Fei Li's group) , Stanford, US
Spring 2022	Porsche group , Stuttgart, Germany
Summer 2022	Computer Webinar Series (CWS) , Amirkabir university, Tehran, Iran
Winter 2020	Seminars of Advanced Topics in Computer Science (WSS) , Sharif university, Tehran, Iran

Languages

English (C2) | French (A2) | Persian (Fluent)

Hobbies

Hiking | Reading | Traveling