Sina Sajadmanesh

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Education

Swiss Federal Institute of Technology (EPFL), PhD in Electrical Engineering — Aug 2023

Sharif University of Technology, MSc in Information Technology Engineering — Sept 2016

University of Isfahan, BSc in Computer Software Engineering — Feb 2014

Experience

Sony AI, Senior AI Engineer – Zurich, Switzerland — Jan 2026 – present

- Driving model optimization and deployment across heterogeneous hardware backends
- Developing cutting-edge vision-language models for visual perception and understanding

Sony AI, AI Engineer – Zurich, Switzerland — Oct 2023 – Dec 2025

- Designed a modular and flexible geometric optimization algorithm, enabling NeurIPS'25 spotlight paper
- Optimized Sony's Argus VFM inference through code optimization, vectorization, and TensorRT, resulting in up to 61× speedup across 17 vision tasks
- Developed 7 computer vision models, including object detection, depth estimation, super-resolution, and OCR, achieving SOTA or competitive results
- Architected and implemented a foundational MTL framework for Sony's Argus VFM, supporting 17 vision tasks, enabling CVPR'25 publication

Idiap Research Institute, Research Assistant – Martigny, Switzerland — May 2019 – Aug 2023

- Worked on differentially private machine learning with graph neural networks
- 3 papers in top-tier conferences (CCS, USENIX Security, and WSDM) with 340+ citations
- 7 invited talks at top universities and research institutions, including Imperial College, UIC, and Twitter
- 6 open-source projects with 130+ stars on GitHub
- 1 short course taught on "Trustworthy Machine Learning" at Artificial Intelligence Doctoral Academy
- Finalist in CSAW Applied Research Competition for the best paper award in computer security in Europe

Brave Software, Research Intern – Remote — Mar 2022 – May 2022

- Developed a novel privacy-preserving federated learning framework for neural bandit models under client heterogeneity using PyTorch, Flower, Dask, and Tensorflow-Lite

Sharif University of Technology, Research Assistant – Tehran, Iran — Nov 2014 – May 2019

- Worked on privacy-preserving machine learning, web data science, and information network analysis
- 4 papers in top-tier venues (WWW, TKDD, IoTJ, ASONAM) with 490+ citations
- 5+ press coverages in prominent media outlets, including MIT Technology Review, France 24, and The Independent
- 2 open-source projects with 20+ stars on GitHub
- 1 semester course taught on "Fundamentals of Programming with Python"

Skills and Expertise

Foundation & Generative Models: Vision & Multimodal Models (ViT, CLIP, LLaVA) · Large Language Models (LLaMA, GPT, Qwen) · Parameter-Efficient Fine-Tuning (LoRA) · Self-Supervised Learning (MAE, DINO)

Machine Learning Frameworks: PyTorch · Hugging Face (Transformers, PEFT, Accelerate, Datasets, TIMM) · OpenMMLabs (MMCV, MMEngine, MMDetection) . Experiment Management (W&B, Neptune)

System & Infrastructure: Distributed Training (DDP, FSDP) · Mixed Precision (AMP, BF16) · Multi-Node GPU Clusters (Slurm, BeeGFS) · Performance Profiling & Optimization (ONNX, TensorRT)

Engineering & Tooling: Python (expert) · Bash · C++ · LaTeX. SQL. Data Processing (torchvision, NumPy, Pandas) · Environment & Packaging (uv, ruff) · DevOps & CI/CD (Docker, GitHub Actions)

Community and Professional Service

Invited Speaker: Imperial College London (2023, 2020), University of Illinois at Chicago (2022), L3S Research Center (2022), GNN User Group Meetup (2021), Twitter ML Seminar (2021)

Organizing / Program Committee: Privacy and Fairness in AI for Health (2023), PPAI (2024), WiseML (2023), PAIR2Struct (2022), DPML (2021)

Reviewer: CVPR (2026), TIFS (2025), NeurIPS (2024), IMWUT (2024), TDSC (2023), LoG (2023, 2022), AISTATS (2023), AIJ (2022), TBD (2021), TIST (2020), SNAM (2020), WWWJ (2018)

Selected Publications

StelLA: Subspace Learning in Low-rank Adaptation using Stiefel Manifold Dec 2025
Zhizhong Li, Sina Sajadmanesh, Jingtao Li, Lingjuan Lyu
Annual Conference on Neural Information Processing Systems (**NeurIPS**) 🌟 Spotlight (top 3%)

Argus: A Compact and Versatile Foundation Model for Vision June 2025
Weiming Zhuang, Chen Chen, Zhizhong Li, Sina Sajadmanesh, et al.
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**)

ProGAP: Progressive Graph Neural Networks with Differential Privacy Guarantees Mar 2024
Sina Sajadmanesh, Daniel Gatica-Perez
ACM International Conference on Web Search and Data Mining (**WSDM**)

GAP: Differentially Private Graph Neural Networks with Aggregation Perturbation Aug 2023
Sina Sajadmanesh, Ali Shahin Shamsabadi, Aurélien Bellet, Daniel Gatica-Perez
USENIX Security Symposium (**USENIX Security**)

Locally Private Graph Neural Networks Nov 2021
Sina Sajadmanesh, Daniel Gatica-Perez
ACM Conference on Computer and Communications Security (**CCS**)

A Hybrid Deep Learning Architecture for Privacy-Preserving Mobile Analytics May 2020
Seyed Ali Osia, Ali Shahin Shamsabadi, Sina Sajadmanesh, et al.
IEEE Internet of Things Journal (**IoTJ**)

Continuous-Time Relationship Prediction in Dynamic Heterogeneous Information Networks Aug 2019
Sina Sajadmanesh, Sogol Bazargani, Jiawei Zhang, Hamid R. Rabiee
ACM Transactions on Knowledge Discovery from Data (**TKDD**)

Kissing Cuisines: Exploring Worldwide Culinary Habits on the Web Apr 2017
Sina Sajadmanesh, Sina Jafarzadeh, Seyed Ali Ossia, et al.
International World Wide Web Conference Companion (**WWW**)