

# Sina Sajadmanesh

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## EDUCATION

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**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

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**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  $61\times$  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

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**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 (MMDetection, MMEval, 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

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**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

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<b>Stella: Subspace Learning in Low-rank Adaptation using Stiefel Manifold</b> Zhizhong Li, Sina Sajadmanesh, Jintao Li, Lingjuan Lyu Annual Conference on Neural Information Processing Systems ( <b>NeurIPS</b> ) 🌟 Spotlight (top 3%)	Dec 2025
<b>Argus: A Compact and Versatile Foundation Model for Vision</b> Weiming Zhuang, Chen Chen, Zhizhong Li, Sina Sajadmanesh, et al. IEEE/CVF Conference on Computer Vision and Pattern Recognition ( <b>CVPR</b> )	June 2025
<b>ProGAP: Progressive Graph Neural Networks with Differential Privacy Guarantees</b> Sina Sajadmanesh, Daniel Gatica-Perez ACM International Conference on Web Search and Data Mining ( <b>WSDM</b> )	Mar 2024
<b>GAP: Differentially Private Graph Neural Networks with Aggregation Perturbation</b> Sina Sajadmanesh, Ali Shahin Shamsabadi, Aurélien Bellet, Daniel Gatica-Perez USENIX Security Symposium ( <b>USENIX Security</b> )	Aug 2023
<b>Locally Private Graph Neural Networks</b> Sina Sajadmanesh, Daniel Gatica-Perez ACM Conference on Computer and Communications Security ( <b>CCS</b> )	Nov 2021
<b>A Hybrid Deep Learning Architecture for Privacy-Preserving Mobile Analytics</b> Seyed Ali Osia, Ali Shahin Shamsabadi, Sina Sajadmanesh, et al. IEEE Internet of Things Journal ( <b>IoTJ</b> )	May 2020
<b>Continuous-Time Relationship Prediction in Dynamic Heterogeneous Information Networks</b> Sina Sajadmanesh, Sogol Bazargani, Jiawei Zhang, Hamid R. Rabiee ACM Transactions on Knowledge Discovery from Data ( <b>TKDD</b> )	Aug 2019
<b>Kissing Cuisines: Exploring Worldwide Culinary Habits on the Web</b> Sina Sajadmanesh, Sina Jafarzadeh, Seyed Ali Ossia, et al. International World Wide Web Conference Companion ( <b>WWW</b> )	Apr 2017