FOOZHAN ATAIEFARD

Senior ML Researcher | Foundation Models, Post-Training, Model Optimization

f.ataiefard@gmail.com | GoogleScholar | /foozhanataiefard

SELECTED EXPERIENCES

Jul 2024 – Present **NVIDIA** ✧ *Sr. Devtech Engineer - Deep Learning Research* – ***VLM, LLM, CV***
- Research on VLM fine-tuning and post-training for photorealistic image generation in DLSS 5.
- CG-to-photorealistic training-data generation and VLM fine-tuning for RTX Neural Face Rendering.
- TensorRT-LLM KV-cache manager development for efficient LLM inference.
- Small language model (SLM) integration for inZOI's Smart Zoi.

Dec 2022 – Jul 2024 **Huawei Technologies Canada** ✧ *Sr. AI Research Scientist* – ***Foundation Models, Long-Context Modeling***
- Foundation models architecture research for training throughput, latency, memory usage, and data efficiency, including LoRA/PEFT, quantization, low-rank/SVD compression, smart token routing, speculative decoding, KV-cache optimization, distributed parallelism.
- Research on long-context text generation using hybrid SSM/Transformer architectures, attention variants, and memory-token approaches.

Models: LLama, GPT-3, ViT/DeiT, Swin, T5, Bert, Conformer, State-Space Models(SSM)
Frameworks: Deepspeed, Megatron-LM

Jul 2022 – Dec 2022 **Oracle Labs** ✧ *Student Researcher* – ***Post-Training, RLHF, LLMs***
- Post-Training LLMs with PPO-based RLHF for SQL code generation and task-specific LLM alignment.

Jul 2021 – Dec 2021 **Intelius AI** ✧ *Student Researcher* – ***Reinforcement Learning***
- Research on DNN Policies and reward functions robustness for A2C, PPO and DQN agents in stock trading
- Responsible for designing high-frequency trading RL agents

Jul 2020 – Oct 2022 **SEA-LAB** ✧ *University of Calgary, Research Assistant*
- My Research focused on adversarial policies to improve robustness of DeepRL trading agents

May 2019 – Oct 2020 **Itoll** ✧ *Machine Learning Scientist* – ***CV, OCR***
- Designed and deployed a production sequence-recognition system for license-plate OCR using CRNN + CTC loss, processing 2M plates/day with 96% accuracy.
- Led a small ML research team and deployed/scaled deep learning products on IaaS cloud servers.

2016 – 2018 **AeLT Lab** ✧ *Amirkabir University of Technology*
Undergraduate Research Assistant
- Predicting user engagement using Information Retrieval methods in Social Media.
- Worked on hybrid recommender systems using Associated rule mining and Collaborative filtering
- Literature review on graph visualization methods
- Thesis: A survey on Graph Visualization

EDUCATION

2022 **University of Calgary**, Canada
M.Sc. in Software Engineering, GPA 4/4

2019 **Amirkabir University of Technology**, 1% acceptance rate
B.Sc. in Computer Science

2013 **Allameh Helli High School (NODET)**, 2% acceptance rate
Diploma in Mathematics and Physics Discipline

RESEARCH

DLSS 5: Real-Time Generative Rendering
NVIDIA Corporation
Technical Report, 2026

SkipViT: Speeding Up Vision Transformers with a Token-Level Skip Connection
F Ataiefard, W Ahmed, H Hajimolahoseini, S Asani, F Javadi, M Hassanpour, O Awad, A Wen, K Liu, Y Liu
Edge Intelligence Workshop, AAAI 2024

SwiftLearn: A Data-Efficient Training Method of Deep Learning Models using Importance Sampling
H Hajimolahoseini, O Awad, W Ahmed, A Wen, S Asani, M Hassanpour, F Javadi, M Ahmadi, **F Ataiefard**, K Liu, Y Liu
ENLSP workshop, Neurips 2023

GQKVA: Efficient Pre-training of Transformers by Grouping Queries, Keys, and Values
F Javadi, W Ahmed, H Hajimolahoseini, **F Ataiefard**, M Hassanpour, S Asani, A Wen, O Awad, K Liu, Y Liu
ENLSP workshop, Neurips 2023

Gray-box Adversarial Attack of Deep Reinforcement Learning-based Trading Agents
F Ataiefard, H Hemmati
ICMLA 2023

Deep State Inference: Toward Behavioral Model Inference of Black-box Software Systems
F Ataiefard, MJ Mashhadi, H Hemmati, N Walkinshaw
IEEE TSE 2021

Single parent family: A spectrum of family members from a single pre-trained foundation model
H Hajimolahoseini, M Hassanpour, **F Ataiefard**, B Chen, Y Liu
under review

A Hybrid Approach for Thread Recommendation in Massive Open Online Course Forums
A Kardan, A Narimani, **F Ataiefard**
IJCSE 2017

SKILLS

Frameworks	Pytorch, OpenAI Gym, Stable Baselines, RLlib, TensorFlow, Keras, Numpy, Scikit-Learn
Programming Languages	Python, C/C++, SQL
OTHER	Linux, Vim, Redis, git, CI/CD, Competitive programming

HONORS & AWARDS

2022 **NSERC CREATE Research Scholarship**, University of Calgary

2016 **4th place in ACCEPT2 ACM-ICPC coding contest**

2011 **1st place in State, 4th place National in Robotics**, 13th Khwarizmi International Award

2011 **4th place in RoboCup IranOpen**
Junior Soccer Cup(**Qualified for RoboCup 2011**)