Ainaz Eftekhar

ainazeft@cs.washington.edu ainaz99.github.io

Education

University of Washington (UW) Seattle, WA
Ph.D. in Computer Science and Engineering 09/2022 - present
- **GPA: 4.0/4.0**, Advisor: **Prof. Ali Farhadi** and **Prof. Ranjay Krishna.**

Ecole Polytechnique Federale de Lausanne (EPFL) Lausanne, Switzerland
Visiting Student Researcher in VILAB 09/2021 - 08/2022
- Advisor: **Prof. Amir Zamir**

Sharif University of Technology Tehran, Iran
B.S. in Computer Engineering 09/2017 - 08/2022
- **GPA: 19.22/20**

PUBLICATIONS

Selective Visual Representations Improve Convergence and Generalization for Embodied-AI
Ainaz Eftekhar, Kuo-Hao Zeng*, Jiafei Duan, Ali Farhadi, Ani Kembhavi, Ranjay Krishna.* Submitted to ICLR 2024

Omnidata: A Scalable Pipeline for Making Multi-Task Mid-Level Vision Datasets from 3D Scans
Ainaz Eftekhar, Alexander Sax*, Jitendra Malik, Amir Zamir.* **ICCV 2021**

Puzzle-AE: Novelty Detection in Images through Solving Puzzles
Mohammadreza Salehi, Ainaz Eftekhar, Niousha Sadjadi*, Mohammad Hossein Rohban, Hamid R. Rabiee* Arxiv, 2020

Work Experience

Allen Institute for Artificial Intelligence (AI2) Seattle, WA
Research Intern, Supervisors: ***Ani Kembhavi, Ranjay Krishna*** 06/2023 – 09/2023
- Team: Perceptual Reasoning and Interaction Research (PRIOR)
- Project: Selective Visual Representations for Embodied-AI (*In Submission to ICLR 2024*)
- A parameter-efficient approach to selectively filter visual stimuli for Embodied-AI tasks (inspired by selective attention in humans)

Ecole Polytechnique Federale de Lausanne (EPFL) Lausanne, Switzerland
Research Intern, Supervisor: ***Amir Zamir*** 09/2020 – 08/2022
- Visual Intelligence and Learning Lab (VILAB)
- Project: Omnidata: A Pipeline for Making Multi-Task Mid-Level Vision Datasets (*accepted at* ***ICCV 2021***)
- A pipeline to generate "steerable" multi-task vision datasets by parametrically sampling and rendering 3D scans, providing a pathway to explore various data sampling effects and create better vision datasets

Sharif University of Technology Tehran, Iran
Research Assistant, ***Mohammad Hossein Rohban*** 09/2019 – 09/2020
- Project: Self-Supervised Approaches for Anomaly/Novelty Detection in Images and Videos
- Self-supervised approaches and adversarial robust training for anomaly detection in images and videos.

Indian Institute of Technology (IIT) Kharagpur, India
Research Intern, Supervisors: ***Abir Das, Pabitra Mitra*** 07/2019-09/2019
- Project: Reducing effects of severe dataset imbalance using CycleGANs
- Reducing the effect of dataset imbalance by training an end-to-end CycleGAN-Classifier architecture

Honors and Awards

EPFL Summer Research Fellowship, Ecole polytechnique federale de Lausanne 2021

Top 5% Academic Ranking, Sharif University of Technology 2020

Ranked 92th in Iranian Nationwide University Entrance Exam (Among +300,000), 2017

Bronze Medal, Iranian National Math Olympiad 2015, 1016

Gold Medal in the 9th International Mathematics Contest, IMC (Singapore) **[certificate]** 2013

Teaching Experience

University of Washington
Deep Learning Spring 2024

Sharif University of Technology
Artificial Intelligence, Discrete Structures, Data Structures and Algorithms, Advanced Programming 2018-2020

Skills

Programming: Python, Java, C/C++, LaTeX
Machine Learning Tools: PyTorch, OpenCV, scikit-learn, NumPy, pandas, matplotlib
Distribution and Deployment Tools: Kubernetes, Docker, Github's CI/CD
Languages: Persian (native), English (advanced, TOEFL score:109), French (Basic)

Relevant Coursework

University of Washington

- *Deep Robotic Learning (CSE 599 G), Deep Learning (CSE 493G1), Computational Neuroscience (CSE 528 A)*

Sharif University of Technology

- *Digital Image Processing (graduate), Artificial Intelligence, Machine Learning, Signals and Systems, Advanced Information Retrieval, Linear Algebra, Probability and Statistics, Design of Algorithms, Data Structures*

Online MOOCs

- *CS231n: Convolutional Neural Networks for Visual Recognition by Stanford, Deep Learning Specialization by deeplearning.ai, Machine Learning by Stanford-Online.*

Machine Vision and Learning Winter School

- *Brain Engineering Center and Cognitive Science School, IPM, Iran* ***[certificate]***

Academic Services

Reviewer of CVPR 2024 12/2023
Reviewing 3 papers in Embodied-AI and Computer Vision

Student Volunteer at ICCV 2023 10/2023
Helped with different logistic tasks at the conference ***[certificate]***

Member of Executive Team in Sharif Artificial Intelligence Challenge 03/2018
Sharif University of Technology

Member of Executive Team in the ACM International Collegiate Programming Contest 12/2017
Sharif University of Technology