

AMIRSHAYAN NASIRIMAJD

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EDUCATION

Polytechnic University of Turin

M.Sc. in Data Science and Engineering

Sep. 2021-April.2024

Graduation Score:107/110

Thesis: Sequential Domain Generalisation for Egocentric Action Recognition

Yazd University

B.Sc. in Computer Engineering

Sep. 2016-Sep. 2020

GPA: 17.75/20 - (3.8/4) (Top 5 student of my graduating class)

Final Project: Touristic Center Management Using Online Image Recognition

RESEARCH INTERESTS

- Video Understanding - Multimodal Learning - Vision-Language models - Domain Generalization - Robotics

SELECTED AWARDS

- Winner of 2023 EPIC-Kitchens Unsupervised Domain Adaptation for Egocentric Action Recognition Challenge at the 11th EPIC@CVPR2023 workshop in Vancouver. *Jul. 2023*
- Politecnico Di Torino Merit Student *Sep. 2022*
- Holder of Invest Your Talent In Italy (IYT) Grant as one of the 64 international students among 1387 applicants in Italy, who received 16,000 euros based on their academic merit. *Sep. 2021 – Jul. 2023*

SKILLS

- Technical: Python(Pytorch, ROS 1/2, OpenCV, TensorFlow, Keras, Scikit-Learn, Spark), Java(Hadoop, Android), C++(AVR, Arduino), Matlab, Gazebo, Moveit 2, HTML/CSS, Database(SQL, NoSQL)
- Research: Scientific Writing (LaTex), Analysing, and Problem-Solving
- Soft: Team-working, Teaching, Project Management, Executing Management
- Language: Persian(Native), English(IELTS 7), Italian(A1/2), German(A1/2)

PUBLICATION

- Nasirimajd, Amirshayan; Alberto Peirone, Simone; Plizzari, Chiara; Ciccone, Marco; Averta, Giuseppe; Caputo, Barbara (2024): Domain Generalization using Action Sequences for Egocentric Action Recognition. Pattern Recognition Letters (PRL) Under Review.
- Nasirimajd, Amirshayan (2024): Sequential Domain Generalisation for Egocentric Action Recognition. Politecnico di Torino Webthesis Portal
- Nasirimajd, Amirshayan; Alberto Peirone, Simone; Plizzari, Chiara; Caputo, Barbara (2023): EPIC-KITCHENS-100 Unsupervised Domain Adaptation Challenge: Mixed Sequences Prediction. 11th EPIC@CVPR2023 workshop. doi.org/10.48550/arXiv.2307.12837
- Esmaeili Najafabadi, Hamid; Zhang, Zhenkai; Yousefan, Mahdi; Nasirimajd, Amirshayan (2022): Anomaly Detection Based on Sigmoid Metric and Object Area Filtering in Hyperspectral Images. Authorea Preprints. doi.org/10.36227/techrxiv.19400612.v1

EXPERIENCES

Research Fellowship

Politecnico di Milano

Jun. 2024 – present

- Focusing on applied computer vision for robotics in manufacturing as a part of different EU projects.
- Participation in the ENFIELD Horizon project, working on generalising the manufacturing vision-based safety systems.
- Participation in the ARISE project, working on integrating LLM and Vision assessment system for HRI.

Computer Vision Engineer

Netventure

Oct. 2023 – Mar. 2024

- Working on-camera motion estimation, and position tracking using optical flow in the video.
- Real-time Object tracking using camera pose estimation and object GPS coordinates for augmented reality systems.

Research Assistant

Nov. 2022 – Sep. 2023

Vandal Lab (Polytechnic University of Turin)

- Working on domain shift problem in egocentric videos.
- Introducing a vision-language framework for domain generalization in egocentric action recognition (Submitted to Pattern Recognition Letter)
- Introduction of a multimodal approach for semantic base domain adaptation in egocentric action recognition, and winning the EPIC-Kitchens Unsupervised Domain Adaptation at the 11th EPIC@CVPR2023 workshop in Vancouver.

Deep Learning Research Intern

Jul. 2022 – Oct. 2022

Aiko Space

- Reproducing the results of a multi-task framework for spacecraft 6D pose estimation.
- Testing and analysis of different augmentation on the multi-task spacecraft pose estimator model.

Research Assistant

Sep. 2020 – Mar. 2021

Shiraz University

- Implementation of real-time traffic detection by using YOLO for the creation of a traffic digital twin system.

TEACHING EXPERIENCES

Deep Learning and Machine Learning Teaching Assistant

Winter 2023

Polytechnic University Of Turin

- Laboratory supervisor: Providing exercises and helping students to solve them.
Course Teacher: Dr. Barbara Caputo

Advanced Machine Learning Teaching Assistant

Fall 2022

Polytechnic University Of Turin

- Laboratory supervisor: Providing exercises and helping students to solve them.
Course Teacher: Dr. Tatiana Tommasi

Data Science Lab: Process And Methods Teaching Assistant

Fall 2022

Polytechnic University Of Turin

- Laboratory supervisor: Providing exercises and helping students to solve them.
Course Teacher: Dr. Elena Maria Baralis

Algorithm Design Teaching Assistant

Fall 2019-Winter 2020

Yazd University

- Supervising workshops and scoring practical exams.
Course Teacher: Dr. Sajjad Zarifzadeh

Fundamental Of Programming Teaching Assistant

Fall 2017

Yazd University

- Holding class, giving exercises and scoring papers.
Course Teacher: Dr. Mohammad Reza Pajoohan

REFERENCE

- **Dr. Giuseppe Bruno Averta**
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Polytechnic University of Turin

- **Dr. Chiara Plizzari**
Email: chiara.plizzari@polito.it

Polytechnic University of Turin