

EDUCATION

- M.Sc. in Artificial Intelligence** 2021 - 2023
Sharif University of Technology Tehran, Iran
- **Thesis Title:** Deep Multi-Object Tracking by Part-Based Re-Identification in Soccer Matches
 - **Selected Courses:** Machine Learning - Advanced Machine Learning - Deep Learning - Digital Image Processing - Advanced 3D Computer Vision - Natural Language Processing - Digital Signal Processing
- B.Sc. in Computer Engineering** 2017 - 2021
Isfahan University of Technology Isfahan, Iran
- **Thesis Title:** Biometric Image Processing for Authentication and Identification of Persons
 - **Selected Courses:** Design and Analysis of Algorithms - Artificial Intelligence - Applied Linear Algebra - Foundation of Computer Vision - Multimedia Systems - Computational Intelligence

RESEARCH INTERESTS

Computer Vision Image/Video Understanding Deep Learning

RESEARCH EXPERIENCE

- Research Assistant** Nov 2021 - Current
Image Processing Lab, Sharif University of Technology Tehran, Iran
- **Description:** The proposal and implementation of a multi-purpose part-based person representation method for part-based tracking of persons in team sport videos.
 - **Description:** The proposal and implementation of a pair-wise distillation approach by transferring inter-class similarities for semantic segmentation.
 - Supervisor: Prof. Shohreh Kasaei
- Research Assistant** Feb 2023 - Current
Language Processing & Digital Humanities Lab Tehran, Iran
- **Description:** An Experimental Survey on Farsi Transformer-based Retrieval Question Answering.
 - **Description:** Working on NLP techniques tailored for the linguistic variations in the Kurdish language family, providing linguistic resources, multilingual models, and NLP pipelines to address essential tasks and facilitate cross-dialect communication within the Kurdish-speaking community.
 - Supervisor: Dr. Ehsaneddin Asgari
- Research Internship** Summer 2022
Image and Signal Processing Lab, UCLouvain Louvain-la-Neuve, Belgium
- **Description:** The development and implementation of a multi-object tracking solution exploiting CNN-based re-identification descriptors.
 - Supervisor: Prof. Christophe De Vleeschouwer
- Undergraduate Research Assistant** Mar 2021 - Aug 2021
Computer Vision Lab, Isfahan University of Technology Isfahan, Iran
- **Description:** The development on an open-source iris recognition system and making improvements in segmentation and feature encoding stages.
 - Supervisor: Dr. Nader Karimi

PUBLICATIONS

See full list of papers on Google Scholar

1. **A. M. Mansourian**, R. Ahmadi and S. Kasaei. AICSD: Adaptive Inter-Class Similarity Distillation for Semantic Segmentation. *Springer, Multimedia Tools and Applications, (under review)*, 2023.
2. **A. M. Mansourian**, V. Somers, C. De Vleeschouwer, and S. Kasaei. Multi-task Learning for Joint Re-identification, Team Affiliation, and Role Classification for Sports Visual Tracking. *In The 6th Int. Workshop on Multimedia Content Analysis in Sports, MMSports, Ottawa, Canada, October 29, 2023.*
3. **A. M. Mansourian**, N. Karimi and S. Kasaei. An Efficient Knowledge Distillation Architecture for Real-time Semantic Segmentation. *AUT Journal of Modeling and Simulation*, 2023.

TEACHING EXPERIENCE

Teaching Assistant

Sharif University of Technology

Tehran, Iran

- Machine Learning (Supervisor: Prof. Hamid Beigy) Spring 2023
- Scientific & Technical Presentation (Supervisor: Prof. Shohreh Kasaei) Spring 2023
- Digital Image Processing (Supervisor: Prof. Shohreh Kasaei) Spring 2023
- Advanced 3D Computer Vision (Supervisor: Prof. Shohreh Kasaei) Fall 2022

Teaching Assistant

Isfahan University of Technology

Isfahan, Iran

- Design and Analysis of Algorithms (Supervisor: Dr. Mohammad Reza Heidarpour) Fall 2019, Spring 2023
- Theory of Formal Languages (Supervisor: Dr. Hossein Falsafain) Spring 2021
- Digital System Design Lab (Supervisor: Dr. Nader Karimi) Spring 2020
- Basis of C Programming Lab (Supervisor: Dr. Elham Mahmoudzadeh) Fall 2018, Spring 2019

HONORS AND AWARDS

- Participating as a part of organizer team of SoccerNet 2023 Challenges Aug 2023
- Participating as reviewer in the peer review process for AUT Journal of Electrical Engineering Jan 2023
- **Ranked 5th** at National Computer Engineering Olympiad (certificate) Oct 2021
- **Ranked 10th (top 0.05%)** in the National Entrance Exam for M.Sc. degree in Computer Engineering Sep 2021
- **Ranked 7th** among undergraduate Computer Engineering students 2017 - 2021
- **Ranked in top 1%** in the National Entrance Exam for B.Sc. of Iran, among more than 148,000 students in the field of Mathematics and Physics Jul 2017

SKILLS

- **Programming Languages:** Python, C, C++, Java, MATLAB, R
- **Frameworks and Libraries:** OpenCV, Numpy, Pytorch, Tensorflow, Keras
- **Technical Skills:** Git, Latex, HTML, CSS, Microsoft SQL Server
- **Languages:** English, Persian, Kurdish

PROJECTS

See full list of projects on github.com/AmirMansurian

- **Knowledge Distillation**

Implementation of a novel knowledge distillation approach for semantic segmentation by transferring inter-class similarities from teacher to student network. ([Link](#))

- **Multi-task Learning for Classification**

Training Multi task model to classify characters of different languages using Multi-head architecture and evaluate results on Omniglot dataset. ([Link](#))

- **Part-based Person Re-Identification**

Create a re-identification dataset from SoccerNet tracking dataset and multi-task training of a body part-based re-identification model for re-identification, team affiliation and role classification of persons in soccer matches. ([Link](#))

- **Persian Question Answering**

An Experimental Survey on Farsi Transformer-based Retrieval Question Answering. ([Link](#))

TEST SCORES

– **TOEFL iBT:** 101 (Reading: 27, Listening: 26, Speaking: 24, Writing: 24)