Pouya Behzadifar

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RESEARCH INTERESTS

Medical Image Analysis - Computer Vision - Robot Navigation - Machine Learning - Deep Learning

Education

Bachelor's in Computer Engineering   2020/09 – present │ Isfahan, Iran
Isfahan University of Technology
GPA: 18.04/20 - 110 Credits(end of 6th semester)
Last 4 semester's GPA: 18.45/20

major-related courses:
- Fundamentals of Computer Vision: 19.2/20
- Fundamentals of Computational Intelligence: 19/20
- Computational Intelligence Lab: 20/20
- Artificial Intelligence: 19.6/20
- Data Structures: 19.9/20

Diploma in Mathematics and Physics Discipline   2016 – 2020 │ Tehran, Iran
Allame Amini high school
GPA : 19.84/20

Research Experience

improvement on ICCV 2023 paper: Graph-Driven   2023/09 – present
Unsupervised Domain Adaptation for Echocardiogram
Video Segmentation ↗
Bachelor's thesis at Isfahan University of Technology
Under the supervision of Dr. Nader Karimi [Scholar ↗]

Socially-Aware Robot Navigation Based on FMP   2023/08 – present
Algorithm ↗
Isfahan University of Technology under the supervision of Dr.
Samaneh Hosseini Semnani
- Base algorithm developed by Dr. Hosseini Semnani [Scholar ↗] at the University of Toronto.
- Hyperparameter tuning of the base algorithm for optimized performance.
- Introduce differentiation between moving and still agents for more dynamic interaction.
- Apply a force to the right of an agent to enhance collision avoidance and movement smoothness.
- Implement a deadlock-free version using a random sleep method for blocked agents.

Detection of left ventricular wall motion abnormalities   2023/10 – present
Medical Image and Signal Processing Research Center
- Extract key points from EchoNet-Dynamic Dataset with the SIFT algorithm.
- Determine the affine transformation equation for each key point using GT_TSK.
- Creating a matrix of polynomial coefficients and then applying Principal Component Analysis.

Professional Experience

NLP Researcher   2023/06 – present
Payam Pardaz Company Under the supervision of Dr. Masoumeh
Zare ↗
- Review leading research papers in Log-based anomaly detection.
- Implement and test the code from these papers on public datasets for comparative analysis.

- Preprocess company data for models that demonstrate the highest accuracy.

Software Engineer Intern   2022/08 – 2022/11 | Tehran, Iran
TAPSI and Rahnema

My work involves contributing to the design, development, and testing of Android applications. Under the guidance of experienced professionals, I actively participate in coding, implementing new features, and resolving bugs to improve the overall user experience.

Teaching Assistantships

Isfahan University of Technology   Isfahan, Iran
Giving lectures, Preparing the homeworks, projects, grading.
- Artificial Intelligence - fall 2023 - instructor: Dr. Hakim Davoudi
- Computer Architecture - fall 2023 - instructor: Dr. Amir Khorsandi
- Computer Architecture - spring 2023 - instructor: Dr. Amir Khorsandi
- Digital System Design - spring 2023 - instructor: Dr. Amir Akhavan Bitaghsir
- Data Structure - fall 2022 - instructor: Dr. Abdolreza Mirzaie
- Fundamental of Programming - fall 2022 - instructor: Dr. Samaneh Hosseini Semnani

Certificates

- Natural Language Processing with Classification and Vector Spaces ⌐

- Advanced Learning Algorithms ⌐

- Supervised Machine Learning: Regression and Classification ⌐

- Computer Vision Basics ⌐

- MATLAB Onramp ⌐

- Software Development Bootcamp ⌐

Awards

Ranked top 1% in the "National University Entrance Examination" among all students in Math and Physics Discipline among 130,000 participants   2020

Bronze Medal of World Mathematical Team Championship (WMTC) Bangkok, Thailand   2017

Languages

- English - Fluent
- Persian - Native

Skills

Programming languages
Python - C++ - C - Matlab - Kotlin

Database
PostgreSQL - Windows SQL Server

Tools and Libraries
PyTorch - TensorFlow - Keras - NumPy - Pandas - Scikit-learn - Matplotlib - Docker - QT - Compose

P.S

Official certificates, documents, and other references are available upon request.