

Pouya Behzadifar

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Education

Bachelor's in Computer Engineering

2020/09 – 2024/09 | Isfahan, Iran

Isfahan University of Technology

GPA: 18.06/20 - 140 Credits

Last 4 semester's GPA: 18.32/20

major-related courses:

- Machine Learning 20/20
- Artificial Intelligence: 20/20
- Computer Vision: 19.2/20
- Computational Intelligence: 19/20
- Computational Intelligence Lab: 20/20

Diploma in Mathematics and Physics Discipline

2016 – 2020 | Tehran, Iran

Allame Amini high school

GPA : 19.84/20

Publications

Enhanced Nuclei Segmentation in Histopathological Images

2024/05

Using a Novel Preprocessing Pipeline and Deep Learning [✉](#)

2024 IEEE World AI IoT Congress (AIIoT), Seattle, USA

- Utilized the U-Net++ architecture integrated with a novel combined Dice-Cross-Entropy loss function.
- Employed preprocessing techniques including color normalization and advanced filtering to improve model accuracy and robustness against color variations and noise.
- Conducted experiments using the NuInsSeg dataset, achieving superior segmentation performance with a Dice score improvement by 7% over previous methods.
- Demonstrated the effectiveness of the model through evaluation, which highlighted its capability to accurately delineate nuclei even in densely clustered scenarios.

Research Experience

Socially-Aware Robot Navigation Based on FMP Algorithm

2023/08 – present

Under the supervision of Dr. Samaneh Hosseini Semnani

- Apply a novel force to the right of an agent to enhance collision avoidance and movement smoothness.
- Introduce differentiation between moving and still agents for more dynamic interaction.
- Implement a deadlock-free version using a random sleep method for blocked agents.
- Hyperparameter tuning of the base algorithm for optimized performance.

Professional Experience

NLP Research Intern

2023/06 – 2023/12 | Isfahan, Iran

Payam Pardaz company under the supervision of Dr. 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 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. Nader Karimi
- 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 [↗](#)
- Problem Solving HackerRank [↗](#)

Honors and Awards

Full Scholarship for Master's in Computer Engineering

2024

- Sharif University of Technology
- University of Tehran
- Amirkabir University of Technology
- Iran University of Science and Technology

Ranked top 0.6% in the "National University Entrance Examination" among 130,000 students in Math and Physics Discipline

2020

Bronze Medal of World Mathematical Team Championship

2017

Bangkok, Thailand

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

Operating Systems

Linux - MacOS - Windows

Additional Documentation

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