Alireza Ghorbani Badi

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Education

2018 – 2023 **Bachelor of Science in Computer Engineering**

Isfahan University of Technology (IUT), Isfahan, Iran

GPA : 16.94 / 20 (Last 4 semesters: 17.74 / 20)

CGPA : 3.65 / 4

B.Sc. thesis title : Domain Adaptation techniques in Image Classification

Research Interests

- Machine Learning
- Natural Language Processing
- Data Analytics
- Cloud Computing
- Computer Vision
- Software Engineering

Relevent Courses

- Machine Learning (18.6/20)
- Data Structure (18.1/20)
- Microprocessor (18.88/20)
- Computer Networks (19.06/20)
- Operating Systems (17.7/20)
- Software Engineering (18.66/20)
- Cloud Computing (17.8/20)
- Secure Computing (19.07/20)

Publications

In Preparation **Adapting CNN Models to Classify Images From New Domains - A Case Study on Domain Adaptation Techniques**

Mehran Safayani - Alireza Ghorbani Badi - Others*

Experience

2022 - 2023 **Research Assistant**

Pattern Analysis & Machine learning Research Lab, IUT

Advisor : **Dr. Safayani**, *Associated Professor*, Department of Electrical & Computer Engineering, IUT

- Worked on Explainable AI to identify the logic behind various ML models' predictions by using algorithms like LIME and Grad-CAM
- Examined frameworks for LLMs hallucinations mitigation like RAG, Prompt Tuning and Representation Engineering by using HuggingFace library

2020 – 2022 **Teaching Assistant**, *Isfahan University of Technology*

- **C/C++ Programming Lab**, under supervision of J.Zahabi, Fall 2020
- **C/C++ Programming Lab**, under supervision of J.Zahabi, Spring 2021
- **Data Structure**, under supervision of Z.Moslehi, Fall 2021
- **Microprocessor**, under supervision of F.Shayegh, Fall 2021

Summer 2022 **Internship**, *IUT IT center*

- Developed high-performance, fault-tolerant API services using Node.js and deployed web services with Nginx, Docker, and PM2 on a server cluster
- Implemented smooth real-time web app updates triggered by backend events using ReactJS and Redux.

May 2024 - Jun 2024 **DevOps & Data Analysit**, *OICT*, Tehran, Iran (Remote Job)

- Preprocessed, analyzed, and visualized large-scale sales invoices using Apache Spark on a Kubernetes-based local cluster

Language Scores

TOEFL iBT : 98 (Reading: 24, Listening: 27, Speaking: 24, Writing: 23)

GRE : 315 (Quantitative Reasoning: 161, Verbal Reasoning: 154, Writing: 3)

Honors & Awards

Feb. 2019 Secured 3rd place out of more than 40 teams in the IUT Programming Contest.

July 2018 Ranked within the top 1% among more than 150,000 participants in the Iranian University Entrance Exam.

Academic Projects

Fall 2022 Domain Adaptation in Image Classification Problem, *B.Sc. Final Project*

Fall 2022 Detecting Vehicles in Aerial Imagery, *Machine Learning Fundamentals*

Spring 2022 Train PPO model on Dow Jones data market to trade on stock market, *IT*

Fall 2021 Adding New Module into Linux Kernel, *Operating System*

Fall 2020 Network Packet Sniffer and Port Scanner with Python, *Computer Networks*

Spring 2019 Windows Application with C++ QT Framework, *Advanced Programming*

Skills

ML packages Numpy, Pandas, Matplotlib, Scikit-learn, Pytorch, Tensorflow

Programming Languages Python, C/C++, JavaScript

Deep Learning CNN, RNN, Transformers

Other SQL, Docker, Git, HTML/CSS

Certificates

- Convolutions Neural Networks
- Neural Networks and Deep Learning
- Sequence Models
- Structuring Machine Learning Projects
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization