Alireza Ghorbani Badi

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⌗ **GitHub :** github.com/alirezaghrb1999
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EDUCATION

Bachelor of Science in Computer Engineering   **September 2018 – February 2023**
Isfahan University of Technology (IUT), Isfahan, Iran
    (Ranked within top **5** Universities in Iran)
    GPA : 16.94 / 20
    CGPA : 3.65 / 4
B.Sc. thesis title : Domain Adaptation techniques in Image Classification

RESEARCH INTERESTS

- **Natural Language Processing**
- **Deep Learning**
- **Large Language Models**
- **Machine Learning**
- **Trustworthy AI**
- **Computer Vision**

SELECTED COURSES

- Machine Learning (18.6 / 20)
- Data Structure (18.1 / 20)
- Microprocessor (18.88 / 20)
- Computer Networks (19.06 / 20)
- Database (17.15 / 20)
- Software Engineering (18.66 / 20)
- Cloud Computing (17.8 / 20)
- Secure Computing (19/20)
- Operating Systems (17.7/20)

LANGUAGE SKILLS

English   **Persian**

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

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

EXPERIENCE

Teaching Assistantship   Sep. 2020 – June 2021
C/C++ Programming Lab

- Assisted **Dr. Sayed Jalal Zahabi** in delivering course material and fostered a positive learning environment in **Basic Programming Lab** for 2 semesters
- Designed engaging **C/C++** programming assignments promoting creativity and collaboration between students
- Provided technical support by **debugging students' codes** and conducted **Q/A sessions** to address students' queries

Web developer intern   Summer 2022
IUT IT center

- Obtained hands-on skills in front-end development with **React.js** and **HTML/CSS**
- Created different APIs and implemented back-end of a website to work with database with **Node.js**
- Developed a **MERN full-stack web application** for trading Items between customers

SKILLS

Programming Languages : C/C++, Python , JavaScript

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

Deep Learning : CNN, RNN, LSTM, GRU, Transformers, Knowledge Graph, RAG

Others : SQL, Docker, Git, Linux, Latex, HTML/CSS

Academic Projects

Domain Adaptation in Image Classification Problem (GitHub)   *B.Sc. Final Project*   Fall 2022

- Implemented Resnet50 network using **Tesorflow** and **Keras** in python to predict the class of images
- Addressed the challenge of **varying data distribution** of train and test datasets by adopting **DANN** technique
- Trained the model on **Vehicles** dataset to showcase the effectiveness of DA techniques

Implementing Microservices Using Kubernetes and Docker   *Cloud Computing Course*   Fall 2022

- Developed **Node.js** APIs and **MangoDB** database as microservices and **dockerized** them to communicate efficiently
- Built local cluster and orchestrated each pod with **Kubernetes** to provide web services

Deep Reinforcement Learning Model for Stock Market Trading   *IT Fundamental Course*   Spring 2022

- Implemented python program using different **RL** algorithms like **PPO**, **A2C** and **DQN** for automating stock trading
- Created various RL models for states, actions, reward function, policy and Q-value for multiple stock markets

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

- Created new command to show current system processes and added it to **XV6** operating system
- Developed **new module** and added it into **Linux kernel** and worked with it through terminal

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

- Created a python program to **sniff and analyze packets** of diverse protocols
- Developed an application to **scan a range of ports** of different destination servers with various packet types

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

- Designed and Implemented an **QT** application with C++ from scratch to offer house renting services to customers

Honors & awards

- Ranked top **12.5%** among all Computer Engineering undergraduate students of Isfahan University of Technology

- Achieved the **5th** position out of over 100 students in the **IUT ACM Programming Contest** in February 2019

- Ranked among the top **0.5%** of the candidates in the Nationwide Entrance Exam for Undergraduate Schools and received **national undergraduate full scholarship**

Certificates

- **Convolutions Neural Networks** (Show Credential)

- **Neural Networks and Deep Learning** (Show Credential)

- **Sequence Models** (Show Credential)

- **Structuring Machine Learning Projects** (Show Credential)

- **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization** (Show Credential)

Reference

- **Dr. Mehran Safayani**
  Associate Professor
  Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran
  ✉ safayani@iut.ac.ir

- **Dr.Sayed Jalal Zahabi**
  Assistant Professor
  Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran
  ✉ zahabi@cc.iut.ac.ir