

Education

Bachelor's Degree in Computer Engineering

Isfahan, Iran

ISFAHAN UNIVERSITY OF TECHNOLOGY

Sep. 2018 - Feb. 2023

- Cumulative GPA: **17.41/20 (3.7/4)**
- GPA for the last two years: **18.8/20 (3.94/4)**
- Honours Project: Graph Attention Neural Networks in Autism Spectrum Disorder (ASD) Diagnosis from brain fMRI data (Grade: 20/20)

Research Interests

- Deep Learning/Machine Learning
- Natural Language Processing
- Computer Vision
- Graph-based machine learning

Publications

- Ghadiri, N., Ghadiri, A., **Sheikholeslami, A.** (2022). A Fuzzy Deep Learning Approach to Health-Related Text Classification. In: Intelligent and Fuzzy Techniques for Emerging Conditions and Digital Transformation. IN-FUS 2021. Springer, Cham. https://doi.org/10.1007/978-3-030-85577-2_21
- A. Ghadiri, **A. Sheikholeslami** and A. Bahaloo, "Multi-label detection of ophthalmic disorders using InceptionResNetV2 on multiple datasets," 2022 8th Iranian Conference on Signal Processing and Intelligent Systems (ICSPIS), Behshahr, Iran, Islamic Republic of, 2022, pp. 1-6, doi: 10.1109/ICSPIS56952.2022.10043998.

Experience

RESEARCH EXPERIENCE

Researcher at Complex Networks and Data Analysis (CNDA) Lab

Isfahan University of Technology

GRAPH NEURAL NETWORKS IN DIAGNOSING AUTISM SPECTRUM DISORDER FROM FMRI DATA

Feb. 2022 - Feb. 2023

- Supervisors: [Dr. Zeinab Maleki](#) and [Dr. Farzaneh Shayegh](#)
- Obtained functional connectivity (FC) patterns from resting-state fMRI in ABIDE dataset
- Constructed brain graphs using Networkx library from functional connectivity (FC) patterns obtained from fMRI data
- Implemented Graph Attention Neural Network and GraphSAGE using PyTorch-geometric and PyTorch library on the given Graphs
- Applied two Graph Data Augmentation (GDA) techniques (Graph Mixup | Feature Augmentation)
- **Skills:** Nilearn, GNNs, fMRI analysis, Pytorch, Github

Researcher at Data and Knowledge Research (DKR) lab

Isfahan University of Technology

SENTIMENT ANALYSIS OF COVID-19 RELATED TWEETS

Jan. 2021 - Jul. 2021

- Supervisor: [Dr. Nasser Ghadiri](#)
- Method: After pre-processing tweets, every tweet was passed to 3 state-of-the-art pre-trained models (BERT, RoBERTa, and Covid-Twitter-BERT) for classification. Finally, the results were fused using two fuzzy fusion methods consisting of Fuzzy Choquet integral fusion and Fuzzy rule-based fusion
- **Skills:** Transformers, NLP, Fuzzy fusion methods, Teamwork, BERT-based models, Sequence Models

Intelligent recognition of ocular diseases (Implementation available at [Gitlab](#))

AIMedic Company

AIMEDIC COMPANY

June. 2021 - Feb. 2022

- In this research work, we compared two fundamental approaches for improving the performance of the eye disease detection task
- Implemented 3 state-of-the-art architectures (VGG16, InceptionV3, InceptionResnetV2) as baselines of our experiments and changed their classification heads to XGBoost and SVM
- For the second approach, we combined the two datasets for the training stage
- The research led to my 2022 IEEE publication
- **Skills:** CNNs, Keras, Azure Server, Docker, Github, Teamwork

WORK EXPERIENCE

MLOps Engineer

ARIAPA COMPANY

Isfahan, Iran

July, 2023 - Now

- I'm working on Real-time multiple object tracking and fire detection
- I am using different detectors, such as YOLO models and various trackers, such as BYTETrack and DeepSORT
- **Skills:** YOLO models, Tracking Algorithms, OpenCV, Triton Inference Server, Docker, Github, Linux

Machine Learning Intern

AIMEDIC COMPANY

Tehran, Iran

Jun. 2021 - May. 2022

- I worked on several computer vision projects, including nuclear segmentation of histology images and skin cancer lesion classification
- **Skills:** CNNs, Keras, Docker, Github, Teamwork

TEACHING EXPERIENCE

Teaching Assistant in Artificial Intelligence

ISFAHAN UNIVERSITY OF TECHNOLOGY / [DR. FALSAFEIN](#)

Esfahan, Iran

Sep. 2022 - Jan. 2023

- Designing and Grading Assignments / Holding homework solving sessions

Teaching Assistant in DataBase

ISFAHAN UNIVERSITY OF TECHNOLOGY / [DR. GHADIRI](#)

Isfahan, Iran

Sep. 2021 - Jan. 2022

- Designing and Grading Assignments

Teaching Assistant in Computer Networks2

ISFAHAN UNIVERSITY OF TECHNOLOGY / [DR. HASHEMI](#)

Isfahan, Iran

Jan. 2022 - Jun. 2022

- Grading Homeworks/ Designing and Grading the Final Project

Teaching Assistant in FPGA

ISFAHAN UNIVERSITY OF TECHNOLOGY / [DR. NABI](#)

Isfahan, Iran

Jan. 2022 - Jun. 2022

- Grading Homeworks

Teaching Assistant in Basic Programming Lab

ISFAHAN UNIVERSITY OF TECHNOLOGY / [DR. MAHMOUDZADEH](#)

Isfahan, Iran

Jan. 2022 - Jun. 2022

- Running basic programming lab

Selected Courses / Workshops

UNIVERSITY COURSES

| | | |
|------|--|-----|
| 2023 | Cloud Computing , 20/20 | IUT |
| 2022 | Machine Learning on Graphs , 20/20 | IUT |
| 2022 | Fundamentals of Data Mining , 19.7/20 | IUT |
| 2021 | Artificial Intelligence , 20/20 | IUT |
| 2021 | Software Engineering , 19.2/20 | IUT |
| 2021 | Operating Systems , 18.4/20 | IUT |
| 2021 | Database , 18.2/20 | IUT |

ONLINE COURSES

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|------|---|-----------------------|
| 2023 | Fundamentals of Reinforcement Learning , Show Credential | University of Alberta |
| 2023 | Introduction to Responsible AI , Show Credential | Coursera |
| 2021 | Sequence Models , Show Credential | Coursera |
| 2021 | Convolutional Neural Networks , Show Credential | Coursera |
| 2020 | Structuring Machine Learning Projects , Show Credential | Coursera |
| 2020 | Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization , Show Credential | Coursera |
| 2020 | Neural Networks and Deep Learning , Show Credential | Coursera |
| 2020 | Machine Learning , Show Credential | Coursera |

WORKSHOPS

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|------|---|--------------------|
| 2022 | Graph Theory in Datascience , IPM-Isfahan Workshop | Isfahan University |
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Skills

- Programming Languages: Python, C/C++
- Machine Learning Libraries: Pytorch, Keras, Tensorflow, Scikit-Learn, Pandas, Pytorch-geometric, Numpy, Matplotlib, Seaborn, Networkx, Nilearn, Mlflow
- Language Skills: IELTS 7.5 (Listening: 7.5, Reading: 8, Writing: 7, Speaking: 7)
- Other Skills: Linux, Git, Docker, Kubernetes, Hadoop-MapReduce, Apache Spark
- Soft Skills: Teamwork, Time management, Problem Solving, Communication, Learning continuously

Selected Projects

Detection of Specific Language Impairment (Github)

Esfahan, Iran

DATA MINING COURSE PROJECT

2022

- Goal: Detect SLI from the Speech databases of typical children and children with SLI
- Method: Extracting features using Open-Smile library and performing exploratory data analysis (EDA) on features. Then, implementing state-of-the-art ML and DL models, including Decision Tree, SVM, Neural Network, Xgboost, Adaboost, and Stacking Classifier, to classify SLI cases
- Skills: Implementation of Crisp-DM methodology from data understanding, preparation, and EDA to modelling and evaluation

Drug-Drug Interaction Prediction (Github)

Esfahan, Iran

MACHINE LEARNING ON GRAPHS COURSE PROJECT

2022

- Goal: Predict the interaction between drugs in the graph which drugs represent nodes and the interaction between them are the edges of the graph (A link prediction task)
- Method: Using Node2vec algorithm to generate embeddings and then predict the links using a simple MLP, as well as implementing a Graph Convolutional Neural Network for the prediction.
- Libraries: Pytorch and PyTorch-Geometric
- Result: Graph convolutional neural networks could outperform the first approach

Implementing an Emojifier using word embeddings

Esfahan, Iran

SEQUENCE MODELS COURSE PROJECT

2020

- The aim of this project was to suggest an emoji based on the content of a given text
- I used Glove word representation to create word embedding for all words in the text
- I implemented multi-layer LSTM using Keras library and I could achieve an accuracy of 90%

Trigger word detection

Esfahan, Iran

SEQUENCE MODELS COURSE PROJECT

2020

- The goal of this project was to implement an algorithm for trigger word detection, "activate"
- I converted audio recordings to spectrograms
- Trained a trigger word detection model consisting of 1-D convolutional layers, GRU layers, and dense layers to make predictions

Nuclear Segmentation of Histology Images

Esfahan, Iran

COMPUTER VISION PROJECT

2021

- I segmented the nuclei and classified them to 8 labels using U-net architecture