Parnian Jalali

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EDUCATION

Isfahan University of Technology, Isfahan, Iran — Sep 2020 – Aug 2023
Master of Science: Computer Engineering, Artificial Intelligence — GPA: 4.00/4.00 (17.91/20)
Thesis Title: Learning Brain Network Representation Using a Hierarchical Graph-Based Model
Thesis Grade: Excellent

University of Isfahan, Isfahan, Iran — Sep 2014 – July 2019
Bachelor of Science: Electrical Engineering, Telecommunication
Project Title: ECG-Based Heartbeat Classification for Arrhythmia Detection

RESEARCH INTERESTS

- Machine Learning and Deep Learning
- Interpretable AI
- Signal Processing
- Neuroscience
- Computer Vision
- Graph Neural Networks
- Multi-modal Learning
- AI in Healthcare

ACADEMIC EXPERIENCE

Research Assistant
Isfahan University of Technology, Iran — Sep 2021 — Aug 2023

- Conducted extensive research on spatio-temporal methods for brain-network representation learning.
- Designed and developed deep learning models for brain disorder classification using fMRI data.
- Implemented and tested machine learning and state-of-the-art (SOTA) methods for brain disorder diagnosis.
- Applied models to the ABIDE and ADHD datasets, achieving superior performance compared to SOTA models.

Teaching Assistant of Reinforcement Learning
Isfahan University of Technology, Iran — Feb 2022 — Jun 2022

- Graded assignments and projects.
- Conducted problem-solving sessions.

Natural Language Processing Researcher
Isfahan University of Technology, Iran — Sep 2021 — Sep 2022

- Crawled data, labelled, and created datasets for sentiment analysis.
- Finetuned the SOTA language model such as BERT, DeBERTa, mT5 and attention-based models.

PUBLICATIONS

Journal paper

- **Jalali, P**. and Safayani, M., 2023. HDGL: A hierarchical dynamic graph representation learning model for brain disorder classification. arXiv preprint arXiv:2311.02903.
  Under review in ***Biomedical Signal Processing and Control Journal***
  Keywords: Graph classification, Dynamic functional connectivity, Graph representation learning, Spatial-temporal modeling
- Safayani, **Jalali, P**., M., Sartipi, A., Ahmadi, AH., Mansouri, AH., Bishe, A., 2023. OPSD: an Offensive Persian Social media Dataset and its baseline evaluations *Under review in* ***New Review of Hypermedia and Multimedia Journal***
  Keywords: Natural language processing, Text classification, Pre-trained language model, Offensive language detection

CERTIFICATIONS

- **Fundamental Neuroscience for Neuroimaging** – Johns Hopkins University (via Coursera)
  Completed: Aug, 2024
  Verification Link

- **Principles of fMRI 1** – Johns Hopkins University (via Coursera)
  Completed: Sep, 2024
  Verification Link
- **Principles of fMRI 2** – Johns Hopkins University (via Coursera)
  Completed: Sep, 2024
  Verification Link

PROJECTS

Deep Learning (Link to Codes & Details)

- Ethereum Price Estimation with RNNs
- Face Mask Detection Using CNN
- Emotion Recognition for TFD Dataset

Reinforcement Learning(Link to Codes & Details)

- Solving the Mountain Car Problem Using Semi-Gradient SARSA and Tile Coding
- Policy Evaluation and Monte Carlo Methods in FrozenLake Environment

Image Processing & Machine Vision(Link to Codes & Details)

- Design and Implementation of a Hybrid CNN and Fully Connected Model for Handwritten Digit Classification
- MRI Image Registration Using Harris and SURF Feature Detection
- Segmentation and Cell Counting in Histopathology Images Using Various Techniques

HONORS

- Graduated among the **top 3** students in the M.Sc. in Computer Engineering (Artificial Intelligence) program, 2023.

SELECTED COURSES

Master's Courses

- Machine Learning (4/4)
- Computer Vision (4/4)
- Deep Learning (4/4)
- Reinforcement Learning (4/4)
- Pattern Recognition (4/4)

Bachelor's Courses

- Image Processing (3/4)
- Signals and Systems (4/4)
- Computer Programming (3/4)

PROGRAMMING & SOFTWARE

- Python (Advanced)
- MATLAB (Advanced)
- PyTorch (Advanced)
- TensorFlow (Novice)
- C/C++ (Novice)
- LaTex (Advanced)
- Microsoft Word (Advanced)
- Microsoft PowerPoint (Advanced)

LANGUAGE SKILLS

TOEFL (Academic): Overall: 98
Listening: 28 — Reading: 23 —Speaking: 22 — Writing: 25
Test date: May 2024