Hamidreza Saffari

Email | Google Scholar | Linkedin | Github

Research Interests

Computer Vision – Deep Learning – Social Network Analysis – Complex Networks

Education

Shahid Beheshti University — Tehran, Iran
Bachelor of Computer Engineering — *Sep. 2018 - Present*

- **Last year GPA:** 4/4
- **CGPA:** 3.57/4
- **Bachelor Project Title:** Link prediction in dynamic graphs via Autoencoders and Siamese Networks.

Publications

Software defect prediction via software visualization — *Under Preparation*
–Co-author — *Expert Syst. Appl.*

Parkinson's Disease Diagnosis based on Gait Cycle Analysis — *Under Review*
–A. Salimi-Badr, M. Hashemi, **H. Saffari** — *Expert Syst. Appl.*

Research Experience

Link prediction in dynamic graphs — Jun. 2022 – Present
-Under the supervision of Dr. Sadegh Aliakbary — *SBU, Tehran, Iran*

- Link prediction in dynamic graphs via Autoencoders and Siamese Networks.

Low-level implementation of transformers — Jun. 2022 – Present
-Under the supervision of Dr. Dara rahmati — *IPM, Tehran, Iran*

- Improving the performance of transformers using middle-level programming languages.
- At the Institute for Research in Fundamental Sciences (IPM).

Software defect prediction via software visualization — Sep. 2021 – Present
-Under the supervision of Dr. Mojtaba Vahidi-Asl — *SBU, Tehran, Iran*

- An end-to-end model for Software defect prediction using CNNs.

Parkinson's Disease Diagnosis — Jun. 2021 – Sep. 2021
-Under the supervision of Dr. Armin Salimi-Badr — *SBU, Tehran, Iran*

- An interpretable classifier using an interval type-2 fuzzy neural network for detecting patients suffering from Parkinson's Disease (PD) based on analyzing the gait cycle is presented.

Persian Handwriting Recognition — Oct. 2020 – Jan. 2021
-Under the supervision of Dr. Hamed Malek — *SBU, Tehran, Iran*

- Proposed Fast Fourier Convolutional Recurrent Network (FFCRNN).

Teaching experience

Teaching Assistant
Member of Teaching-Assistant Team

—Fundamentals of Robotics | *1 Semester* — Spring 2022
—Machine Learning | *1 Semesters* — Fall 2022
—Computer Architecture | *2 Semesters* — Spring 2021 - Spring 2022
—Microprocessors and Assembly Language | *3 Semesters* — Winter 2020 - Spring 2022
—Digital Circuit Design | *1 Semester* — Fall 2021

Projects

Next frame prediction | *Python, PyTorch, Pandas* 2022

- Predicting the next frame of a video using CNNs and LSTMs.
- Increasing performance by adding the attention mechanism.

Sentiment Analysis | *Python, Pandas, hazm, Numpy* 2022

- Classifying comments on products into two classes via Ensemble learning.

AI-based Othello | *Python, Tkinter* 2021

- Single-player Othello implementation using classic AI algorithms.

Robot motion planning | *Python, Webots* 2021

- Implementing Bug algorithms for robot wall following and motion planning.

Persian Handwriting Recognition | *Python, Yolov5* 2020

- Using YOLOv5 to perform object detection on handwriting images.

Selected Courses

Graduate Courses

- Deep Learning | A+

Undergraduate Courses

- Machine Learning | A+
- Artificial Intelligence and Expert Systems | A
- Fundamentals of Robotics | A+
- Advanced Programming | A+
- Software Hardware Co-design | A+
- Embedded and Real time Systems | A+
- Computer Architecture | A+

Certifications

Pandas | *Certificate* Kaggle — Mar. 2021

Geospatial Analysis | *Certificate* Kaggle — Mar. 2021

Introduction To Data Science in Python | *Certificate* Coursera — Feb. 2021

Structuring Machine Learning Projects | *Certificate* Coursera — Aug. 2020

Sequence Models | *Certificate* Coursera — Aug. 2020

Convolutional Neural Networks | *Certificate* Coursera — Aug. 2020

Deep Learning Specialization | *Certificate* Coursera — Aug. 2020

Blockchain Basics | *Certificate* Coursera — Aug. 2020

Machine Learning | *Certificate* Coursera — Jun. 2020

Neural Networks and Deep Learning | *Certificate* Coursera — Jul. 2020

Skills

Programming Languages: Python, C/C++, Java, Golang, SystemVerilog, VHDL
Machine Learning Libraries: PyTorch, Tensorflow, Scikit-learn, Pandas, Numpy
Languages: Persian (native), English (fluent, **TOEFL SCORE: 111/120**)