Mahtab **Farrokh**
Graduate Research Assistant

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Education

University of Alberta   *Edmonton, Canada*
M.Sc. in Computing Science - GPA: 3.9/4   *2021 - 2023*

AmirKabir University of Technology (Tehran Polytechnic)   *Tehran, Iran*
B.Sc. in Computer Software Engineering - GPA: 18.23/20   *2015 - 2020*

Skills

Programming	Python3, C/C++, Node.JS, LaTeX, Matlab
Web	React, HTML5, CSS, Express with Node.JS, Django with Python
Databases	MySQL, MongoDB, PostgreSQL, Redis
Frameworks and Tools	Keras, Pytorch, Numpy, Scikit, Pandas, Qt
Operating Systems	Ubuntu, MacOS, Windows

Work Experiences

Tebinja   *Tehran, Iran*
Artificial Intelligence Developer   *Oct. 2016 - May 2019*
- Designed and implemented a web-based symptom checker system using Python, Node.js and React. To address this problem, results of 4 algorithms were merged: Bayesian Network, Decision Tree, DQN(Deep Q-network), Feedforward Neural Network.

Research Experiences

University of Alberta   *Edmonton, Canada*
M.Sc. Project   *May 2021 - Now*
- Improving prostate cancer recurrence prediction from pathology tissue images using a representation learning approach(BYOL, SimCLR,..), under supervision of prof. Greiner.

Amirkabir University of Technology   *Tehran, Iran*
B.Sc. Project   *Jan. 2019 - Apr. 2020*
- Designed and implemented a multi-label classification algorithm using link prediction to improve a symptom checker's diagnosis under the supervision of prof. Amir Haeri.

Teaching Experiences

University of Alberta   *Edmonton, Canada*
Teaching Assistant   *2021*
- Introduction to the Foundations of Computation II, Under Supervision of prof.Flanders

Amirkabir University of Technology   *Tehran, Iran*
Teaching Assistant   *2016 - 2019*
- Signals & Systems, Under Supervision of prof. Rasti
- Artificial Intelligence & Expert Systems, Under Supervision of prof. Nikabadi
- Engineering Statistics, Under Supervision of prof. AmirHaeri
- Data Structure & Algorithms, Under Supervision of prof. Dehghan
- Introduction to Python3 programming

Interests

Machine Learning, Computer vision, AI Applications in Medical science

Online Courses

AI for Medical Diagnosis		*Certificate*
by deeplearning.ai		*Aug. 2020*
Fundamentals of Reinforcement Learning		*Certificate*
by University of Alberta, Alberta Machine Intelligence Institute		*Aug. 2020*
Neural Networks and Deep Learning		*Certificate*
by deeplearning.ai		*Aug. 2018*
Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization		*Certificate*
by deeplearning.ai		*Sep. 2018*
Structuring Machine Learning Projects		*Certificate*
by deeplearning.ai		*Sep. 2019*
Convolutional Neural Networks		*Certificate*
by deeplearning.ai		*Sep. 2019*
Sequence Models		
by deeplearning.ai		*Sep. 2020*

Honors & Awards

2019	**Qualified to Direct Admission to graduate school (M.Sc.)**, Computer Engineering Dept, AUT
2013	**Semi-finalist**, National Mathematics Olympiad
2015	**Ranked top 0.4%**, among more than 180,000 students participated in the nationwide entrance examination of undergraduate studies in Iranian universities
2007-2014	**Member of National Organization for Development of Exceptional Talents**, Nodet
2011	**Accepted for 2nd level Kharazmi awards assessments**, Built a recyclable hovercraft

Notable Projects

2021	**Adversarial Attack on Sentiment Analysis Task**, Proposed a new algorithm Text-GAN, which applies an Autoencoder on text and a GAN model learns to add noise to the latent space in the way that the new generated text fools the victim model.	*Project*
2021	**Generated Differential Private Synthetic Data**, Proposed a new method PATE-ACGAN, which applies the PATE idea to an Auxiliary Conditional GAN	*Project*
2020	**Circuit Element Detector** , Implemented using YOLO5 image object detection	*Project*
2019	**Message Broker**, Implemented For Distributed Systems course project by Go	*Project*
2019	**Food Ordering website**, Implemented For Web Programming course project by React and Node.js and mongoose	*Project*
2018	**Time Series Prediction**, Using srima model	*Project*
2017	**Classical Search and Local Search algorithms**, AI Course Project by Python, implementation of BFS, DFS(unlimited, limited, iterative), A*, bidirectional, genetic, hill climbing, simulated annealing	*Project*
2016	**Search Engine**, Data Structure Course Project by Python, implementation of BST, AVL (Balanced BST), TST, Balanced TST, Trie and HashMap using chaining approach based on LinkedList	*Project*

Extracurricular Activity

SSC	*Tehran, Iran*
Member	*2017 - 2018*

• Elected as a member of Students Scientific Chapter(SSC), CEIT Department, Amirkabir University of Technology

Linux Festival	*Tehran, Iran*
Member of Execution Committee	*Spring 2017 and 2016*

• 9th and 8th National AUT Linux Festival

ACM ICPC	*Tehran, Iran*
Member of Execution Committee	*Fall 2018 and 2017 and 2016*

• 18nd, 17nd, and 16nd International AUT ACM ICPC

DMC	*Tehran, Iran*
Member of Execution Committee	*Fall 2017*

• 1st Data Mining Cup

References

Professor Russell Greiner,   Email: rgreiner@ualberta.ca
Professor Maryam Amirhaeri,   Email: m.amirhaeri@utwente.nl
Professor Ahmad Nikabadi,   Email: nickabadi@aut.ac.ir