

# Mahtab Farrokh

GRAUDATE RESEARCH ASSISTANT

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## Education

### University of Alberta

Edmonton, Canada

M.Sc. in Computing Science

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, Go

**Web** React, HTML5, CSS, JavaScript, Express with Node.JS, Django with Python

**Databases** MySQL, MongoDB, PostgreSQL, Redis

**Frameworks and Tools** Keras, Tensorflow, Numpy, Scikit, Pandas, Pytorch, 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. 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

- Working on predicting prostate cancer recurrence using pathology images, under supervision of prof. Greiner.

### Amirkabir University of Technology

Tehran, Iran

B.Sc. PROJECT

Jan. 2019 - Apr. 2020

- Worked on a multi-label classification algorithm using link prediction for Improving symptom checker system under the supervision of prof. Amir Haeri.

RESEARCH AND DEVELOP I1820

Oct. 2017 - Jan. 2018

- Implemented a middleware platform for IoT based on agent approach under the supervision of prof. Bakhshi, AoLab

## 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

by deeplearning.ai

Certificate

Aug. 2020

### Fundamentals of Reinforcement Learning

by University of Alberta, Alberta Machine Intelligence Institute

Certificate

Aug. 2020

### Neural Networks and Deep Learning

by deeplearning.ai

Certificate

Aug. 2018

### Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization

by deeplearning.ai

Certificate

Sep. 2018

### Structuring Machine Learning Projects

by deeplearning.ai

Certificate

Sep. 2019

### Convolutional Neural Networks

by deeplearning.ai

Certificate

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 srma 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

MEMBER

Tehran, Iran

2017 - 2018

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

### Linux Festival

MEMBER OF EXECUTION COMMITTEE

Tehran, Iran

Spring 2017 and 2016

- 9th and 8th National AUT Linux Festival

### ACM ICPC

MEMBER OF EXECUTION COMMITTEE

Tehran, Iran

Fall 2018 and 2017 and 2016

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

### DMC

MEMBER OF EXECUTION COMMITTEE

Tehran, Iran

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