

# Matin Moezzi

Department of Mathematics & Computer Science  
Amirkabir University of Technology  
(Tehran Polytechnic)  
Tehran, Iran

Email: [matin.moezzi@gmail.com](mailto:matin.moezzi@gmail.com)  
Website: [matinmoezzi.github.io](https://matinmoezzi.github.io)  
Github: [github.com/matinmoezzi](https://github.com/matinmoezzi)  
Linkedin: [linkedin.com/in/matin-moezzi](https://linkedin.com/in/matin-moezzi)

## Education

### 2016 – 2021 Bachelor of Computer Science—Minor in Mathematics, Amirkabir University of Technology

Advanced Programming	18.5/20	Differential Equations	16.66/20
Artificial Intelligence	Pass/Fail	Numerical Linear Algebra	18.5/20
Neural Networks (Graduate level)	14/20	Data Mining	Pass/Fail
Stochastic Processes (I)	Pass/Fail	Probability (I)	18.4/20
Nonlinear Optimization	Pass/Fail	Linear Optimization	17.8/20
Computer Networks (with Lab.)	17.3/20	Operating Systems	19.5/20
Principles of Software Design	18/20	Compiler	19.5/20
Computer Simulation	20/20		

\* PASS/FAIL grading policy in Spring 2020 semester

### 2012 – 2016 Mathematics & Physics Diploma, Allame Tabatabae High School, Advanced Department

Astronomy and Astrophysics Olympiad Student – GPA: 19.71/20

## Research Experience

### 2021 Data-Efficient Hierarchical Reinforcement Learning using Importance Sampling [\[PDF\]](#)[\[Code\]](#)

Developed an approach to improve data-efficiency of the hierarchical deep Q network algorithm (h-DQN) using the importance sampling method.

### 2021 An Uncertainty-Aware Pseudo-Label Selection Framework using Regularized Conformal Prediction [\[PDF\]](#)[\[Code\]](#)

Employing uncertainty sets yielded by the conformal regularization algorithm in the uncertainty-aware pseudo-label selection framework to fix the poor calibration neural networks, reducing noisy training data.

### 2021 Online Semi-supervised Multi-label Classification [\[PDF\]](#)

Studied online multi-label classification methods in a semi-supervised setting that are robust to evolving the label space and real-time domains.

### 2021 Deep Reinforcement Learning Methods for Safety Assurance in Autonomous Driving [\[PDF\]](#)

Studied reinforcement learning (RL) methods namely, inverse RL and handcrafted rule-based modules to address the safety assurance problem in autonomous driving.

### 2020 (I) Solving the System of ODEs of the Control Spread of Ebola Virus Epidemic using Deep Neural Networks [\[Code\]](#)

Faculty of Mathematics and Computer Science  
Under Supervision of Prof. M. Abbaszadeh ([m.abbaszadeh@aut.ac.ir](mailto:m.abbaszadeh@aut.ac.ir))

### (II) Adding the L-BFGS Support for Training DNNs to the *NeuroDiffEq* package [\[Code\]](#)

### 2020 Applying Deep Reinforcement Learning to Solve Control Problems Described by a System of Delay Differential Equations (DDEs)

Computational Intelligence & High Dimensional Systems Lab.  
Faculty of Electrical Engineering, Amirkabir University of Technology  
Under Supervision of Prof. Mohammad B. Menhaj ([menhaj@aut.ac.ir](mailto:menhaj@aut.ac.ir))

## Skills

**Mathematics:** Probability Theory, Stochastic Processes, Optimization, Linear Algebra, Numerical Analysis

**Statistics:** Inferential Statistics (Parametric & Nonparametric), Bayesian Statistics

**Artificial Intelligence:** Evolutionary Methods, Knowledge Representation & Reasoning

**Machine Learning:** Regression, Classification, Ensemble Learning, Clustering, Kernel Methods

**Deep Learning:** ConvNets, Sequence Models & RNN, Regularization & Optimization Methods

**Reinforcement Learning:** SARSA & Q-Learning, Policy Gradient, Actor-Critic Algorithms

**Deep Reinforcement Learning:** DQN, A2C, A3C, DDPG, TD3, PPO

**Natural Language Processing:** Word Embeddings & CBOW, N-Gram Language Model, Siamese Network, LSTM, Viterbi Algorithm, Attention and Transformer Models

**Software Programming:** OOP, Microservices, SOLID Principles, SOAP & Restful Web Services

**Computer Network:** OSI Architecture, TCP/IP, SDN & NFV, Mininet Emulator

**Programming Languages:** C/C++, Python, MATLAB, R, GO, Java, C#, SQL, Javascript

**Libraries:** Pandas, Scikit-learn, PyTorch, TensorFlow, Keras, OpenAI Gym, MuJoCo Engine, OpenMP

**Tools & Frameworks:** .Net/ Asp.Net, Wireshark, Boson (Computer Network Simulator),  $\LaTeX$ , Git

**Others:** GNU/Linux, Bash scripting, MySQL

## Online & Extracurricular Courses

**Cutting-Edge AI: Deep Reinforcement Learning in Python**, Udemy [\[See the Certificate\]](#)

**Reinforcement Learning Specialization**, University of Alberta, Coursera [\[See the Certificate\]](#)

**Practical Reinforcement Learning (with honors)**, HSE, Coursera [\[See the Certificate\]](#)

**Deep Learning Specialization**, Andrew Ng, deeplearning.ai, Coursera [\[See the Certificate\]](#)

**Natural Language Processing Specialization**, deeplearning.ai, Coursera [\[See the Certificate\]](#)

**TensorFlow Developer Specialization**, deeplearning.ai, Coursera [\[See the Certificate\]](#)

**Machine Learning**, Andrew Ng, Stanford University, Coursera [\[See the Certificate\]](#)

**Artificial Intelligence Nanodegree** Peter Norvig & Sebastian Thrun, Udacity [\[See the Certificate\]](#)

**Network Function Virtualization**, Georgia Institute of Technology, Coursera [\[See the Certificate\]](#)

**Software Defined Networking**, The University of Chicago, Coursera [\[See the Certificate\]](#)

**Generative Adversarial Networks Workshop**,  
Amirkabir Artificial Intelligence Summer Summit 2020 [\[See the Certificate\]](#)

**AI for Everyone**, deeplearning.ai, Coursera [\[See the Certificate\]](#)

**Deep Reinforcement Learning by Sergey Levine**, CS 285 UC Berkeley, Youtube Lectures

**Reinforcement Learning by David Silver**, DeepMind & UCL, Youtube Lectures

**Artificial Intelligence**, Computer Engineering Dept., Sharif University of Technology

**Data Networks**, Electrical Engineering Dept. Sharif University of Technology

**Data Science with Python Workshop**, Computer Science Dept. Amirkabir University of Technology

## Course Projects

### **Practical Reinforcement Learning Course by Coursera**

- Taxi-v3 Env. using Q-Learning and Experience Replay
- Deep Kung-Fu with A2C Algorithm
- Atari Breakout Game using DQN
- Cartpole-v0 using REINFORCE Algorithm
- Cliff walking using SARSA Algorithm
- Cartpole-v0 using Deep Cross Entropy

**Lunar Lander Problem with Deep RL Agent**, Reinforcement Learning Specialization, Coursera

**Machine Learning Algorithms in Scikit-learn library**, Data Mining Course

**Part of Speech Tagging with HMM**, AI Nanodegree, Udacity

**Air Cargo Planning Problem**, AI Nanodegree, Udacity

**Knights Isolation Game with Adversarial Search Algorithms**, AI Nanodegree, Udacity

**Othello, Tic-Tac-Toe & 8-Puzzle Adversarial Game Playing Agents**, Artificial Intelligence Course

**Readers-Writers & Dining Philosophers Problem**, Operating Systems Course

**Distributed Calculator with Client-Server Architecture using TCP**, Computer Networks Course

**P2P File Transfer using UDP**, Computer Networks Course

**Linear Matrix Equation Solver in C**, Numerical Linear Algebra Course

**MySQL interface for Massive Datasets in C**, Database Course

## Teaching Experience

**Operating Systems**, Teaching Assistant, Faculty of Computer Science, Amirkabir University of Technology, Fall 2019, Spring 2020, Spring 2021  
Under Supervision of Prof. Nourikhah

**Computer Networks**, Teaching Assistant, Faculty of Computer Engineering, Amirkabir University of Technology, Spring 2020  
Under Supervision of Prof. Sabaei

## Work Experience

**2018 – 2019   Software Developer**, iTours Online Travel Agency Co., Tehran, Iran

Designed and Implemented enterprise SOAP & Restful Web Services  
Developed Asp.Net Core Web Apps & Web APIs

**2017 – 2018   Web Developer**, Parsian Insurance Co., Tehran, Iran

Effectively refactored previous projects based on Design Patterns & SOLID principles  
Developed Asp.Net web applications for the insurance management system  
Developed front-end side of web applications with HTML, CSS & Javascript

## Activities

**Editorial Board Member of Student Scientific Journal**, Mathematics & Computer Science Faculty  
Amirkabir University of Technology, 2020 - Present

## Scores

Duolingo English Test: 125/160

GRE Test: Quantitative Reasoning: 165/170, Verbal Reasoning: 151/170, Analytical Writing: 3.0/6.0

## References

**Prof. Mohammad B. Menhaj**, Full Professor, Department of Electrical Engineering, Amirkabir University of Technology (Tehran Polytechnic), Iran, [menhaj@aut.ac.ir](mailto:menhaj@aut.ac.ir)

**Prof. Mehdi Ghatee**, Associate Professor, Department of Mathematics & Computer Science, Amirkabir University of Technology (Tehran Polytechnic), Iran, [ghatee@aut.ac.ir](mailto:ghatee@aut.ac.ir)

**Prof. Mostafa Abbaszadeh**, Assistant Professor, Department of Mathematics & Computer Science, Amirkabir University of Technology (Tehran Polytechnic), Iran, [m.abbaszadeh@aut.ac.ir](mailto:m.abbaszadeh@aut.ac.ir)

**Prof. Adel Mohammadpour**, Associate Professor, Department of Mathematics & Computer Science, Amirkabir University of Technology (Tehran Polytechnic), Iran, [adel@aut.ac.ir](mailto:adel@aut.ac.ir)

**Prof. Hossein Nourikhah**, Assistant Professor, Department of Mathematics & Computer Science, Amirkabir University of Technology (Tehran Polytechnic), Iran, [nourikhah@aut.ac.ir](mailto:nourikhah@aut.ac.ir)