Mahdi Sadeghzadeh Ghamsary

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Contact Information

Cell: (+98) 937 307 4111   Github.com/MSadeghzadehG
Email: msadeghzadeh@aut.ac.ir   LinkedIn.com/in/msadeghzadehg
Personal Email: mahdisadeghzadeh24@gmail.com

Research Interests ○ Machine Learning ○ Computer Vision ○ Natural Language Processing
○ Explainable Neural Networks ○ Reinforcement Learning ○ Optimization Methods

Work Interests ○ Data Science and Engineering ○ Back-End Development ○ Product Management

Education

- **Amirkabir University of Technology**, (Tehran Polytechnic), Tehran, Iran
B.Sc., **Computer Engineering**   *Sep. 2017 – May 2021 (expected)*
Passed Units: 48/140 credits
GPA: 15.4/20.00

- **Allameh Helli 10 High School**, Tehran, Iran
Diploma, Mathematics and Physics Discipline   *Sep. 2013 – Jun. 2017*
National Organization for Development of Exceptional Talents (NODET)
CGPA: 19.45/20.00

Work Experience

- **Oloome Sabz, Machine Learning Researcher**   *Sep. 2018 – Feb. 2019*
Research about Intrusion Detection Systems (IDS) to add the use of Machine learning methods for detecting more complex anomalies alongside a rule-based approach. Was working on the feasibility of the project by dividing it into two phases and trying to find point-anomalies for the first one.

- **IUST Aerospace Research Center**, Software Engineer

  Sep. 2018 – Jan. 2019
Setting up and Deploying a GitLab local server, Teaching git structure and commands using Pro Git book

Notable Projects

○ **Unsupervised Anomaly Detection on Network connection logs – Oloome Sabz**   *Sep. 2018 – now*

A system that oversees all connections of a network (e.g. a company internal network) and is able to detect advanced persistent threats (APT). currently working on its first phase to detect point-anomalies. and in the second phase will be trying to detect contextual-anomalies. Link to Github

○ **Unsupervised Image Plate Recognition**   *Dec. 2018 – May 2019*

An automated plate recognition algorithm implemented using Keras and OpenCV to recognize both Iranian and International truck plates in one of the Iran customs (Bashmagh). Link to Github

○ **Scraping AUT-Portal and Bypassing Captcha**   *Sep. 2018*

A scraper on portal.aut.ac.ir that bypasses the captcha, logins and then selects the given courses. The captcha bypass uses a trained model with a dataset of captchas and labels. Link to Github

○ **Neural Network Maker**   *Dec. 2018*

A simple python framework to make and learn neural networks that uses perceptrons to create a neural network and implements forward and backward propagation procedures using the Chain rule instead of Matrix-based approach to learn the network. Link to Github

	○ **Minux** *Jan. 2019 – now*
	Minux is a recommender system that creates an optimized kernel according to the users hardware configuration, for providing better performance. Currently studying to match kernel requests to memory specifications. Link to Github
	○ **Stock Simulator** *Nov. 2018 – now*
	Stock Simulator is a Django application that gets data of Stock daily and apply some indicators on these data to help users for better trading. Link to Github
Teaching Experience	• [Homework/Project TA] **Advanced Programming, Dr.Kalbasi** *Spring 2019*
Online Courses	• **Machine Learning**, 2011, Andrew Ng, by Stanford University on *Coursera* • **Convolutional Neural Networks for Visual Recognition (CS231n)**, 2016, Fei-Fei Li-Andrej Karpathy-Justin Johnson, by Stanford University on *youtube* and *course website*
Certifications	• **Deep Learning Summer School** – University of Tehran (certificate) • **Django Learning Course** – Amirkabir University of Technology (certificate)
Honors and Awards	• Achieved top **0.25%** place among 137,788 applicants for The University Nationwide Entrance Exam Mathematics and Physics. *Iran 2017* • Participant in the 8th RoboCup Iran Open competitions in Junior Rescuer Robots part *(The RoboCup IranOpen 2013)*.
Technical Skills	**Programming Languages:** ○ Proficient: Python, C/C++, Java. ○ Familiar: Scala. **Web Development:** Django, NodeJS, JQuery, CSS, HTML. **Database:** SQLite, PostgreSQL. **Tools/Framework:** Tensorflow and Keras. **Operation Systems:** Linux, MacOS, Windows. **Textsetting:** LaTeX, MS Word. **Scripting:** Bash.
Languages	• Persian: Mother tongue (native). • English: Familiar.
Additional Activities	• Chief of **Public Relation and Industry Communications** of the **Students' Scientific Association** of Computer Engineering and IT Department (Elected by the vote of the students), Amirkabir University of Technology, *Feb. 2019 – now*. • **Technical Head** of 6th Amirkabir Programming League at Computer Engineering and IT Department, Amirkabir University of Technology, *Mar. 2019*. • Cooporator in **Data Mining Section** of Samcode Competition in Allameh Helli 3 High School, *Dec. 2017*.
References	• Bahador Bakhshi Sareskanrood, Professor Assistant, Computer Eng. and IT (CEIT) Dept., Amirkabir Univ. of Tech. ○ Email: : bbakhshi@aut.ac.ir • Naderi, Professor Assistant in faculty of computer engineering department of Iran University of Science technology. ○ Email: naderi@iust.ac.ir • Taha Yousefbeigi, CTO of Oloome Sabz. ○ Cell: +98 912 209 1353