Danial **Alihosseini**

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Education

Sharif University of Technology

Tehran, Iran

M.Sc. in Artificial Intelligence

2017 - 2019

GPA: **18.84** / 20

Notable Courses

- Machine Learning
- Stochastic Processes
- Information Theory and Coding
- Probabilistic Graphical Models
- Convex Optimization
- Natural Language Processing
- Deep Learning

Amirkabir University of Technology (Tehran Polytechnic)

Tehran, Iran

B.Sc. in Software Engineering

2013 - 2017

GPA: **18.92** / 20

Notable Courses

- Foundations of Data Mining
- Artificial Intelligence
- Data Storage & Retrieval

Research Projects

Conditional Text Generation with Neural Networks

2019

M.Sc. Thesis Project [Score: 19.75/**20**]

Sharif University

Under supervision of Dr. Mahdieh Soleymani Baghshah

The goal of this project was to generate sentences with desired labels such as sentiment or any other categorical label. To have complete control over the output of the model (with greedy decoding), the ”(Single) Latent Based Models” were selected which VAE is one of the most popular ones. To overcome the ”KL Collapse” problem or in simple words, the latent ignorance problem of VAE in Language Modeling task, the ”Wasserstein Autoencoder” was replaced. At last to learn the latent space of sentences of each label value, a conditional ”Masked Autoregressive Flow” network which is a Flow-Based Network was taken into account.

Voice Search Engine on Persian Poems

2017

B.Sc. Thesis Project [Score: 19/**20**]

Amirkabir University

Under supervision of Prof. Mohammad Mehdi Homayounpour

Our main goal in this project was to detect a read poem while a Phoneme to Grapheme model and the text of a wide range of Persian poems were given to me. To this end, I trained a Word to Grapheme model and designed a heuristic search to match the sequence of read graphemes with the sequence of poem graphemes and find some candidates, and at last calculating minimum edit distance to find the nearest poem. This project was implemented in a Client-Server manner. The server was based on Django python framework and the Client was an Android app.

Locating Humanoid Robots in Football Field

2016

Research at AUTMAN (AUT-Uofm)

Amirkabir University

Our main problem in AUTMAN was to locate the robot in the field of play based on observations that got from the camera on its head. My primary task was to study the localization methods, especially the Particle Filter method. It was implemented in collaboration with my other teammates.

Notable Course Projects

2019 **Design and implementation of Image2Latex model; Learn to convert an image of a mathematical formula to corresponding latex code.**, Deep Learning Course

2018 **MAP and Bayesian Training of a Recommender System**, Probabilistic Graphical Models Course

2017 **Design and Implementation of Smart Agents for Pacman Game**, Artificial Intelligence Course

2013 **Design and implementation of a 2D Strategic Multiplayer Game with JAVA**, Advanced Programming Course

Teaching Assistance

2020	**Deep Learning**, Dr. Mahdieh Soleymani Baghshah	*Sharif University*
2020	**Engineering Probability and Statistics**, Dr. Naeimeh Omidvar	*Sharif University*
2019	**Machine Learning**, Dr. Mahdieh Soleymani Baghshah & Prof. Hamid R. Rabiee	*Sharif University*
2017	**Advanced Programming**, Dr. Seyed Majid Noorhosseini	*Amirkabir University*
2017	**Design of Algorithms**, Dr. Zahed Rahmati	*Amirkabir University*
2016	**Operating Systems**, Dr. Nastooh Taheri Javan	*Amirkabir University*

Publications

Jointly Measuring Diversity and Quality in Text Generation Models *2019*

Danial Alihosseini, Ehsan Montahaei, Mahdieh Soleymani Baghshah

Proceedings of the Workshop on Methods for Optimizing and Evaluating Neural Language Generation.

Honors & Awards

2020	**Ranked 4th**, based on GPA of M.Sc. Artificial Intelligence students of 2017 entrance at Sharif University of Tech.
2018	**Qualified**, as a member of Iran's National Elites Foundation
2017	**Direct Admission to M.Sc. Program**, in Artificial Intelligence due to my performance at both Sharif University of Tech. and Amirkabir University of Tech.
2017	**Ranked 2nd**, (out of 100) based on GPA of B.Sc. students of 2013 entrance at Amirkabir University of Tech.
2016	**Qualified**, as National Scientific Olympiad of Computer Engineering team member
2015	**Ranked 3rd**, in Humanoid Teen Size Robot League as a AUTMAN (AUT-Uofm) team member; RoboCup 2015, Hefei, China
2013	**Ranked Top 0.1**, in the Country-wide University Entrance Exam

Presentation

Approximate Methods in Reinforcement Learning *2019*

Instructor at Workshop

Institute for Research in Fundamental Sciences (IPM), Tehran, Iran

The Remote Presentation of "Jointly Measuring Diversity and Quality in Text Generation Models" paper *2019*

Speaker

Minneapolis, Minnesota, United States

Skills

Machine Learning

- Pytorch
- Hugging Face (Pytorch)
- Numpy
- Tensorflow < 2
- Scipy
- Scikit-Learn

Miscellaneous

- Python
- JAVA
- C/C++
- Vue
- Django
- NodeJS
- Git
- Linux

Languages

Persian, Native **English**, Intermediate

References

Dr. Mahdieh Soleymani Baghshah *Sharif University*

Assistant Prof. of Computer Engineering Department

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