Arman Malekzadeh Lashkaryani

PHD STUDENT · ARTIFICIAL INTELLIGENCE

Sharif University of Technology

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Research Interests

- Machine Learning
- Natural Language Processing
- Information Retrieval
- Speech Recognition

Education

Sharif University of Technology (SUT) — *Tehran, Iran*
PHD COMPUTER ENGINEERING (ARTIFICIAL INTELLIGENCE) — *2020 - present*
- GPA: 18.5/20 (4/4)

Polytechnic University of Turin (PoliTO) — *Turin, Italy*
MSC EXCHANGE STUDENT - DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATIONS — *Fall 2019*

Amirkabir University of Technology (AUT) — *Tehran, Iran*
MS COMPUTER SCIENCE (SOFT COMPUTING AND ARTIFICIAL INTELLIGENCE) — *2018 - 2020*
- GPA: 18.53/20 (4/4)

Amirkabir University of Technology (AUT) — *Tehran, Iran*
BS COMPUTER SCIENCE — *2014 - 2018*
- GPA: 17.81/20 (3.63/4)

Publications

IN PREP

Malekzadeh, A., Gheibi, A., & Mohades, A. (2021). PREDICT: Persian Reverse Dictionary. arXiv preprint arXiv:2105.00309.

Honors & Awards

2020 **Received Honorary Ph.D. Admission Offer**, SUT – Office of Exceptional Talents
Ranked 2nd among all Computer Science M.Sc. Students, AUT – Math & CS Department

2019 **Scholarship for an Erasmus Exchange Program**, European Commission

2018 **Received Honorary M.Sc. Admission Offer**, AUT – Office of Exceptional Talents
Ranked 3rd among all Computer Science B.Sc. Students, AUT - Math & CS Department

2017 **Elected for the Student Scientific Chapter by Majority Vote**, AUT – Student Scientific
Association Office

Teaching Experience

Spring 2020	**Probability & Statistics for Engineering**, Head Teaching Assistant	*SUT*
Fall 2020	**Natural Language Processing**, Teaching Assistant	*AUT*
Fall 2020	**Social Media Computing**, Teaching Assistant	*AUT*
Fall 2018	**Graph Theory and Applications**, Teaching Assistant	*AUT*
Spring 2018	**Fundamentals of Database Systems**, Teaching Assistant	*AUT*
Spring 2018	**Computer Networks**, Teaching Assistant	*AUT*
Spring 2017	**Database Systems' Fundamentals**, Teaching Assistant	*AUT*

Selected Projects

Development of a Transformer-based Persian Language Model

- As a collaboration with the Mobile Telecommunication Company of Iran (MCI) - R&D Lab
- Pre-trained a BERT model for Persian language using the Huggingface Transformers library
- Fine-tuned the model on multiple tasks including named-entity recognition, news classification, part-of-speech tagging, and sentiment analysis

Persian Reverse Dictionary (Master's Thesis Project)

- Designed a neural network consisted of LSTM and attention layers to discover the closest word to a descriptive input phrase

Customer Intent Detection using Social Media Analysis (Bachelor's Thesis Project)

- Built a system which analyses the Twitter account of a given user, and gains insight on his/her interests
- Tweet classification was done with PySpark, and FastText embeddings

Underwater Image Enhancement

- Used the gray-world algorithm for white-balancing, gamma-correction to increase the contrast, unsharp masking to compensate for the details lost in the process, and combined the outputs using Gaussian and Laplacian pyramids
- Matlab implementation based on the paper "Color Balance and Fusion for Underwater Image Enhancement"

Persian Chatbot

- The bot answers informal questions in Persian language, based on the Seq2Seq architecture
- Python and Tensorflow implementation based on the paper "Sequence to Sequence Learning with Neural Networks"

Content Management System

- Implemented a CMS to develop a blog from scratch using PHP and MySQL as the backend tools
- Designed the user interface with HTML and CSS, along with JQuery

Test Scores

GRE General   *Score: 317*
- Analytical Writing: 4.0 / Quantitative Reasoning: 163 / Verbal Reasoning: 154   *January 10th, 2020*

IELTS Academic   *Score: 7.5*
- Listening: 8.0 / Reading: 7.5 / Writing: 7.0 / Speaking: 8.0   *January 11th, 2020*

TOEFL   *Score: 105*
- Reading: 27 / Listening: 26 / Speaking: 24 / Writing: 28   *April 13th, 2019*