Mohammadreza Samadi

Last Update: January 2021

Contact Information

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Research Interests

- Natural Language Processing
- Deep Learning
- Information Retrieval
- Machine Learning
- Data Mining
- Artificial Intelligence

Education

- **Amirkabir University of Technology**, (Tehran Polytechnic), Tehran, Iran
  B.Sc., Computer Engineering, 2016 - 2020 (expected)
  GPA: **3.86**/4 $\simeq$ **18.06**/20
  ◇ Bachelor's Thesis: *Implementation of a Persian Fake News Detection System and a Fake News Crawler Tool*
- **Mofid High School**, Tehran, Iran
  High School Diploma in Mathematics and Physics, 2012 - 2016
  GPA: **19.67** / 20

Publications And Preprints

- **M. Samadi**, S. Momtazi, *"Fake News Detection: Deep Semantic Representation with Topic and Entity Enhanced Feature Engineering"*, **IP&M** (to be submitted), January 2021.
- **M. Samadi**, S. Momtazi, *"Multi-Channel Convolutional Neural Networks for Detecting COVID-19 Fake News"*, **Applied Soft Computing** (under review), December 2020.
- P. Kavehzadeh, **M. Samadi**, M. Amir Haeri, *"Unsupervised Anomaly Detection on Node Attributed Networks: A Deep Learning Approach"*, **ICISS2021** (under review), December 2020.
- **M. Samadi**, M. Mousavian, S. Momtazi, *"Deep Contextualized Text Representation and Learning for Fake News Detection"*, **IP&M** (under review), October 2020.
- **M. Samadi**, M. Mousavian, S. Momtazi, *"Persian Fake News Detection: a Deep Neural Representation and Deep Neural Learning Approach"*, **TALLIP** (under review), September 2020.
- **M. Samadi**, *Question Recommendation System Based on the Pair Similarity*, Technical Report, September 2019.

Research And Work Experiences

- **Fake News Detection System**, *Bachelor's Thesis* *April 2020 - present*
  Study on implementing a Persian fake news detection system using state-of-the-art pre-trained models and novel deep neural classifiers. During this project, a Persian fake news crawler was developed for scraping fake news from Persian news agencies websites - Impl. in Python
  ◇ *Under supervision of Prof. Momtazi*
- ***Anomaly Detection in Attributed Graphs*** *September 2020 - December 2020*
  Research on detecting outlier nodes in graphs using variational autoencoders. In this study, nodes of the graph were represented by features vectors extracted with different graph embedding algorithm, and our proposed model can detect abnormal nodes in the graph - Impl. in Python
  ◇ *Under supervision of Prof. Amir Haeri*
- ***Question Recommendation System*** *May 2019 - November 2019*
  Research Intern at IPM Brain Engineering Research Center
  My first project in NLP during my undergraduate studies. The goal was to develop a recommendation system using common text similarity metrics and static word embedding methods for recommending medical questions in the realm of Ophthalmology - Impl. in Python
  ◇ *Under supervision of Prof. Lashgari*
- ***Android Developer***, *SOP Company* *March 2018 - October 2019*
  I was responsible for designing and developing a mHealth (mobile health) application and defining its software requirements.
- ***Android Developer Intern***, *Papillon Company* *June 2017 - August 2017*

Technical Skills

- **Programming & Scripting Languages**
  Python, Java, C, C#
- **Machine Learning Tools**
  TensorFlow, Keras, PyTorch, scikit-learn
- **Mobile Development**
  Android, React Native
- **Web Frameworks and Databases**
  Vue.js, Django, Flask, MySQL, SQLite

Teaching Experiences

- **Teaching Assistant, Applied Linear Algebra** *Spring 2019*
  Under supervision of Prof. Amir Mazlaghani
- **Teaching Assistant, Operating Systems** *Spring 2019*
  Under supervision of Prof. Taheri Javan
- **Teaching Assistant, Computer Architecture** *Spring 2019*
  Under supervision of Prof. Farbeh
- **Lecturer, Fundamentals of Android Development**, AUT *March 2019*
  A 30-hour workshop was held at the Amirkabir University of Tech. for students to become familiar with Java programming and the fundamentals of developing Android applications.

Notable Course Projects

- **Information Retrieval**
  Developed a news search engine with the capability of crawling news, boolean and vector space searching, and enhanced by clustering and classification algorithms - *Impl. in Python*
- **Data Mining**
  Famous Kaggle challenges were solved by different classifiers, regression models, and clustering algorithms - *Impl. in Python*
- **Principles of Computational Intelligence**
  Implemented an RBF neural network which trained by ES (Evolutionary Strategy) algorithm - *Impl. in Python*
- **Principles and Applications of Artificial Intelligence**
  Implemented an interactive video based on foreground and background subtraction using MOG2 and KNN algorithms - *Impl. in Python*
- **Algorithm Design**
  Developed an algorithm for detecting community structures using label propagation with weighted coherent neighborhood propinquity - *Impl. in Java*

Language Skills

- **English**: Fluent
  ◇ **TOEFL iBT: 102/120** *August 22, 2020*
  *Reading **28**/30, Listening **25**/30, Speaking **25**/30, Writing **24**/30*
  ◇ ***GRE General:*** *November 16, 2020*
  *Quantitative Reasoning: **166**/170, Verbal Reasoning: **142**/170 , Analytical Writing: **3***
- ***Persian**: Native*

Honors And Awards

- **Ranked 333** in the Nationwide University Entrance Exam among all students in Mathematics and Physics (approximately 120,000), *2016*
- Accepted in the first level of **Iranian Chemistry Olympiad Exam**, *2014*

References

- **Saeedeh Momtazi**
  Assistant Professor, CE Department, Amirkabir University of Technology
  Email: momtazi@aut.ac.ir
- **Maryam Amir Haeri**
  Assistant Professor, OMD Department, University of Twente
  Email: m.amirhaeri@utwente.nl
- **Reza Lashgari**
  Assistant Professor, Brain Eng. Research Center, Institute For Research In Fundamental Sciences
  Email: rezalashgari@ipm.ir