

Ali Omrani

Current Position

Department of Computer Science
University of Southern California
Los Angeles, CA 90007, United States

Contact Info

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RESEARCH INTERESTS

- Natural Language Processing
- Computational Social Science
- Fairness in NLP

EDUCATION

- **Ph.D. in Computer Science** Jan. 2020 - Present
University of Southern California, Los Angeles, United States
Research Advisor: Morteza Dehghani
- **B.Sc. in Computer Engineering** Sept. 2014 - Sept. 2019
Department of Computer Engineering, University of Tehran, Tehran, Iran
GPA: 3.9

HONORS AND AWARDS

- Best Bachelors Thesis Award from Tap30 and University of Tehran 2019
- Ranked **2nd** among UT Computer Engineering Students Class of 2018 2018
- DAAD Scholarship for Summer Internship at Fraunhofer IDMT 2017
- Faculty of Engineering Award from University of Tehran 2016
- Ranked **115th** among 200,000+ participants in nationwide university entrance exam 2014
- **3rd** Place in RoboCup Iran Open 2012 Junior Soccer League 2012
- Member of the National Organization for Development of Exceptional Talents 2007

TEACHING EXPERIENCE

- Teaching Assistant of **Analysis of Algorithms** Summer 2020, Spring 2020
- **Head** Teaching Assistant of **Artificial Intelligence** Spring 2018
- **Head** Teaching Assistant of **Software Testing** Fall 2018
- Teaching Assistant in **Network Security** Spring 2018, Fall 2018
- Teaching Assistant in **Operating Systems** Spring 2018, Fall 2018, Spring 2017
- Teaching Assistant in **Databases** Spring 2018, Fall 2018, Spring 2017
- Teaching Assistant in **Engineering Probability and Statistics** Fall 2016
- Teaching Assistant in **Introduction to Computing and Programming** Fall 2015

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RESEARCH EXPERIENCE

- **Research Assistant** Jan. 2020-Present
Computational Social Science Lab, USC, United States

My research involves design, development, and validation of Natural Language Processing algorithms with applications to social scientific problems. More recently, I also have become interested in the fairness of machine learning systems with a focus on NLP.

- **Research Assistant** Aug 2018 - Aug. 2019
Cognitive Systems Lab, University of Tehran, Iran

I investigated the applications of attention mechanism in artificial neural networks under the supervision of Majid Nili Ahmadabadi. I also wrote my bachelor's thesis about my work at the Cognitive Systems lab and won the Best Thesis award for it from University of Tehran and Tap30.

- **Research Intern** June 2017 - Sept. 2017
Music Information Retrieval Group, Fraunhofer IDMT, Germany

I was responsible for the design and development of a singing voice detection system from weak labels. To do so, I applied a deep convolutional neural network to the spectrogram of the music input under the supervision of Estefanía Cano Cerón. Furthermore, using a mixture of post-hoc analysis methods I was able to both improve the performance and distill the base network.

- **Research Intern** June 2016 - Sept. 2016
Data science Lab, University of Tehran, Iran

During my first research experience after high school, I learned about Graph Analysis for Big Data and applied it to the Call Data Records (CDR) of Iran's largest mobile operators under the supervision of Behnam Bahrak. We were able to detect anomalies from the resulting graph and linked them to corresponding real-world events such as popular sport messages, spammers, and special holiday greetings.

TECHNICAL SKILLS

- **Programming:** Python, Java, R, C/C++, Matlab
- **Libraries:** PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, Transformers

LANGUAGES

- **Persian:** Native
- **English:** Proficient