

Sina Mahdipour Saravani

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FIELDS OF INTEREST	<ul style="list-style-type: none">• Neural Language Representation, Interpretability in NLP, Commonsense Reasoning, Language Grounding, Controlled Generation• Natural Language Processing, Deep Learning and Machine Learning for NLP	
EDUCATION	<p>Colorado State University, Fort Collins, United States</p> <ul style="list-style-type: none">• M.S., Computer Science, In Progress 2020 - 2022<ul style="list-style-type: none">◊ Cumulative Grade Average: 4.0/4.0◊ Thesis: <i>An Investigation into the Efficacy of Vector of Locally Aggregated Descriptors (VLAD) to Neural Architectures for Natural Language Processing (NLP)</i> <p>Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran</p> <ul style="list-style-type: none">• B.Sc., Computer Systems Architecture 2014 - 2019<ul style="list-style-type: none">◊ Cumulative Grade Average: 16.61/20.0◊ Thesis: <i>Implementation of FPGA Accelerators for Convolutional and Pooling Layers of a Convolutional Neural Network (CNN)</i>	
PUBLICATIONS & MANUSCRIPTS	<ul style="list-style-type: none">• Sina Mahdipour Saravani, Ritwik Banerjee, and Indrakshi Ray. 2021. An Investigation into the Contribution of Locally Aggregated Descriptors to Figurative Language Identification. In <i>Proceedings of the EMNLP Workshop on Insights from Negative Results in NLP</i>. ACL.• Sina Mahdipour Saravani, Indrajit Ray, and Indrakshi Ray. 2021. Automated Identification of Social Media Bots using Deepfake Text Detection. In <i>Proceedings of the International Conference on Information Systems Security (ICISS)</i>. Springer.• PI: Indrakshi Ray, Co-authors: Sina Mahdipour Saravani, and Hossein Shirazi. 2021. Grant Proposal: Automated Generation of NGAC Policies from Natural Language Documents. To be submitted to <i>National Institute of Standards and Technology (NIST)</i>.	
RESEARCH & WORK EXPERIENCES	<ul style="list-style-type: none">• Research Assistant, Colorado State University, USA 2020 - Present<ul style="list-style-type: none">★ <i>Supervisors:</i> Dr. Indrakshi Ray, Dr. Ritwik Banerjee, Dr. Nikhil Krishnaswamy◊ Machine Translation for Similar Low-Resource Language Pairs with Loan Words Currently studying the potential benefits of incorporating loan words, both as a knowledge base and as insights to attention-based architecture design, for automated translation between similar language pairs.◊ An Investigation into the Contribution of VLAD to Figurative Language Identification Investigated the application and effectiveness of vector of locally aggregated descriptors on top of Transformer-based language representation layers. Studied sarcasm detection in Twitter as a use case (Published at EMNLP Workshop).◊ Deepfake Text Detection for Social Media Bot Identification Implemented Transformer-based models to detect bot-generated text on a deepfake dataset resulting in performance improvements by using domain-specific pre-trained models (Published at ICISS).◊ Claim/Counterclaim Pair detection in YouTube Comments Currently designing a framework to extract claims and counterclaims from YouTube video comments using a pipeline of claim detection, stance detection, and NLI.◊ Extracting Access Control Policies from Natural Language Documents Currently studying a semantic role labeling approach for extracting access control policies and translating them to NGAC relations (Grant proposal under preparation).• Graduate Assistant, University of Nevada, Las Vegas, USA 2019 - 2020<ul style="list-style-type: none">★ <i>Supervisors:</i> Dr. Kazem Taghva, Dr. Mignon Kang◊ Named Entity Recognition for Persian	

	Implemented a BiLSTM-CRF architecture for Persian NER.	
	<ul style="list-style-type: none"> ◇ Activity Recognition with Wearable Sensor Dataset in Spark Platform Implemented scalable activity classification solutions (MLP Network, Logistic Regression, and Decision Tree) using Spark for motion data of the elderly in a room. 	
	<ul style="list-style-type: none"> ● Research Assistant, Amirkabir University of Technology, Iran 2018 - 2019 ★ <i>Supervisor:</i> Dr. Reza Safabakhsh ◇ FPGA Accelerators for Convolutional and Pooling Layers of a CNN Researched FPGA accelerators for neural networks and implemented the convolutional and the max pooling functions of CNNs using Xilinx High-Level Synthesis. This project was deployed on a ZYBO SoC board and achieved up to 30 times faster throughput compared to the equivalent software code on a CPU. 	
	<ul style="list-style-type: none"> ● NLP Developer and Research Assistant, CommentMiner, Iran 2017 - 2018 ★ <i>Supervisor:</i> Mr. Ahmad Asadi ◇ NLP Micro-services for Persian Language Implemented a set of text processing micro services and a question answering chat bot for the Persian language in CommentMiner start-up. Services included short-text topic classification, profanity detection, NER, and sentiment analysis. 	
TEACHING & MENTORING EXPERIENCES	<ul style="list-style-type: none"> ● Mentor, Colorado State University 2020 - 2021 <ul style="list-style-type: none"> ◇ Mentored 2 graduate, 4 undergraduate and 2 high school students for research in NLP. ◇ Mentored a 1st generation low income underrepresented student for i-STEM Scholars program. ● Temporary Teaching Faculty, University of Nevada, Las Vegas Summer 2020 <ul style="list-style-type: none"> ◇ Computer Science II (CS202) course ● Teaching Assistant, University of Nevada, Las Vegas Spring 2020 <ul style="list-style-type: none"> ◇ Data Mining (CS458/658) course, Instructor: Dr. Kazem Taghva ● Teaching Assistant, Amirkabir University of Technology (Tehran Polytechnic) Fall 2018 <ul style="list-style-type: none"> ◇ Embedded & Real-Time Systems course, Instructor: Dr. Hamed Farbeh 	
PROFESSIONAL SERVICES	<ul style="list-style-type: none"> ● Reviewer, TheWebConf 2021 & 2022 ● Reviewer, ICDCS 2021 ● Reviewer, ACISP 2021 ● Reviewer, IEEE TPS 2020 & 2021 ● Reviewer, IEEE S&P 2020 ● Industry Relations Officer, Scientific Association and Olympiad Affairs Office of Computer Engineering Department at Amirkabir University of Technology 2015 	
HONORS & AWARDS	<ul style="list-style-type: none"> ● Fully-funded Research Assistantship, Colorado State University 2020 ● UNLV Access Grant, University of Nevada, Las Vegas 2020 ● Fully-funded Graduate Assistantship, University of Nevada, Las Vegas 2019 ● Top 50 start-ups in GITEX start-ups competition, UAE (CommentMiner) 2017 ● 3rd place in ElecomStars start-ups competition, Iran (CommentMiner) 2017 ● 1st place grant in Sharif VC Cup start-ups competition, Iran (CommentMiner) 2017 ● Ranked top 0.2% in Nationwide University Entrance Exam in Math. & Physics, Iran 2014 	
RELEVANT SKILLS	<ul style="list-style-type: none"> ● PROGRAMMING: Python, Java, C/C++, C# ● TOOLS AND FRAMEWORKS: PyTorch, Keras, TensorFlow, Hugging Face Transformers, MALLET, Stanford NLP, polyglot, NLTK, OpenMP, CUDA, Docker ● OTHERS: \LaTeX, Bash, Vivado and Hardware Design Softwares, Basic Web Programming 	
REFERENCES	Available upon request.	