

## Sina Mahdipour Saravani

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CONTACT	<i>E-mail:</i> <a href="mailto:sina.mpsaravani@gmail.com">sina.mpsaravani@gmail.com</a> & <a href="mailto:sinamps@colostate.edu">sinamps@colostate.edu</a> <i>Homepage:</i> <a href="http://sinamps.github.io">sinamps.github.io</a>	
FIELDS OF INTEREST	<ul style="list-style-type: none"><li>• Neural Language Representation, Interpretability in NLP, Commonsense Reasoning, Language Grounding, Controlled Generation</li><li>• Natural Language Processing, Deep Learning and Machine Learning for NLP</li></ul>	
EDUCATION	<p><b>Colorado State University (CSU)</b>, Fort Collins, United States</p> <ul style="list-style-type: none"><li>• M.S., <b>Computer Science</b>, In Progress 2020 - 2022<ul style="list-style-type: none"><li>◊ Cumulative Grade Average: <b>4.0/4.0</b></li><li>◊ Thesis: <i>An Investigation into the Efficacy of Vector of Locally Aggregated Descriptors (VLAD) to Neural Architectures for Natural Language Processing (NLP)</i></li></ul></li></ul> <p><b>Amirkabir University of Technology (Tehran Polytechnic) (AUT)</b>, Tehran, Iran</p> <ul style="list-style-type: none"><li>• B.Sc., <b>Computer Systems Architecture</b> 2014 - 2019<ul style="list-style-type: none"><li>◊ Cumulative Grade Average: <b>16.61/20.0</b></li><li>◊ Thesis: <i>Implementation of FPGA Accelerators for Convolutional and Pooling Layers of a Convolutional Neural Network (CNN)</i></li></ul></li></ul>	
PUBLICATIONS & MANUSCRIPTS	<ul style="list-style-type: none"><li>• 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.</li><li>• 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. (30% acceptance rate)</li><li>• 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>.</li></ul>	
RESEARCH & WORK EXPERIENCES	<ul style="list-style-type: none"><li>• <b>Research Assistant, Colorado State University, USA</b> 2020 - Present<ul style="list-style-type: none"><li>★ <i>Supervisors:</i> <b>Dr. Ritwik Banerjee, Dr. Indrakshi Ray, Dr. Nikhil Krishnaswamy</b></li><li>◊ <b>Machine Translation for Similar Low-Resource Language Pairs with Loan Words</b> 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.</li><li>◊ <b>An Investigation into the Contribution of VLAD to Figurative Language Identification</b> 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).</li><li>◊ <b>Deepfake Text Detection for Social Media Bot Identification</b> 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).</li><li>◊ <b>Claim/Counterclaim Pair detection in YouTube Comments</b> Currently designing a framework to extract claims and counterclaims from YouTube video comments using a pipeline of claim detection, stance detection, and NLI.</li><li>◊ <b>Extracting Access Control Policies from Natural Language Documents</b> Currently studying a semantic role labeling approach for extracting access control policies and translating them to NGAC relations (Grant proposal under preparation).</li></ul></li><li>• <b>Graduate Assistant, University of Nevada, Las Vegas, USA</b> 2019 - 2020<ul style="list-style-type: none"><li>★ <i>Supervisors:</i> <b>Dr. Kazem Taghva, Dr. Mignon Kang</b></li><li>◊ <b>Named Entity Recognition for Persian</b></li></ul></li></ul>	

	Implemented a BiLSTM-CRF architecture for Persian NER.	
	<ul style="list-style-type: none"> <li>◇ <b>Activity Recognition with Wearable Sensor Dataset in Spark Platform</b> Implemented scalable activity classification solutions (MLP Network, Logistic Regression, and Decision Tree) using Spark for motion data of the elderly in a room.</li> </ul>	
	<ul style="list-style-type: none"> <li>● <b>Research Assistant, Amirkabir University of Technology, Iran</b> 2018 - 2019</li> <li>★ <i>Supervisor:</i> <b>Dr. Reza Safabakhsh</b></li> <li>◇ <b>FPGA Accelerators for Convolutional and Pooling Layers of a CNN</b> 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.</li> </ul>	
	<ul style="list-style-type: none"> <li>● <b>NLP Developer and Research Assistant, CommentMiner, Iran</b> 2017 - 2018</li> <li>★ <i>Supervisor:</i> <b>Mr. Ahmad Asadi</b></li> <li>◇ <b>NLP Microservices for the Persian Language</b> Implemented a set of text processing microservices 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.</li> </ul>	
TEACHING & MENTORING EXPERIENCES	<ul style="list-style-type: none"> <li>● <b>Teaching Assistant, Colorado State University</b> Spring 2022 <ul style="list-style-type: none"> <li>◇ Fault-Tolerant Computing (CS 530) course, Instructor: <b>Dr. Yashwant Malaiya</b></li> </ul> </li> <li>● <b>Mentor, Colorado State University</b> 2020 - 2021 <ul style="list-style-type: none"> <li>◇ Mentored 2 graduate, 5 undergraduate and 2 high school students for research in NLP.</li> <li>◇ Mentored a 1st generation low income underrepresented student for <b>i-STEM Scholars program</b>.</li> </ul> </li> <li>● <b>Temporary Teaching Faculty, University of Nevada, Las Vegas</b> Summer 2020 <ul style="list-style-type: none"> <li>◇ Computer Science II (CS 202) course</li> </ul> </li> <li>● <b>Teaching Assistant, University of Nevada, Las Vegas</b> Spring 2020 <ul style="list-style-type: none"> <li>◇ Data Mining (CS 458/658) course, Instructor: <b>Dr. Kazem Taghva</b></li> </ul> </li> <li>● <b>Teaching Assistant, Amirkabir University of Technology (Tehran Polytechnic)</b> Fall 2018 <ul style="list-style-type: none"> <li>◇ Embedded &amp; Real-Time Systems course, Instructor: <b>Dr. Hamed Farbeh</b></li> </ul> </li> </ul>	
PROFESSIONAL SERVICES	<ul style="list-style-type: none"> <li>● Reviewer, <b>TheWebConf</b> 2021 &amp; 2022</li> <li>● Reviewer, <b>ICDCS</b> 2021</li> <li>● Reviewer, <b>ACISP</b> 2021</li> <li>● Reviewer, <b>IEEE TPS</b> 2020 &amp; 2021</li> <li>● Reviewer, <b>IEEE S&amp;P</b> 2020</li> <li>● Industry Relations Officer, <b>Scientific Association and Olympiad Affairs Office of AUT</b> 2015</li> </ul>	
HONORS & AWARDS	<ul style="list-style-type: none"> <li>● <b>Fully-funded Research Assistantship, Colorado State University</b> 2020</li> <li>● <b>UNLV Access Grant, University of Nevada, Las Vegas</b> 2020</li> <li>● <b>Fully-funded Graduate Assistantship, University of Nevada, Las Vegas</b> 2019</li> <li>● <b>Top 50 start-ups</b> in <b>GITEX</b> start-ups competition, UAE (CommentMiner) 2017</li> <li>● <b>3<sup>rd</sup> place</b> in <b>ElecomStars</b> start-ups competition, Iran (CommentMiner) 2017</li> <li>● <b>1<sup>st</sup> place grant</b> in <b>Sharif VC Cup</b> start-ups competition, Iran (CommentMiner) 2017</li> <li>● Ranked top <b>0.2%</b> in Nationwide University Entrance Exam in Math. &amp; Physics, Iran 2014</li> </ul>	
RELEVANT SKILLS	<ul style="list-style-type: none"> <li>● PROGRAMMING: Python, Java, C/C++, C#</li> <li>● TOOLS AND FRAMEWORKS: PyTorch, Keras, TensorFlow, Hugging Face Transformers, MALLET, Stanford NLP, polyglot, NLTK, OpenMP, CUDA, Docker</li> <li>● OTHERS: <math>\LaTeX</math>, Bash, Vivado and Hardware Design Softwares, Basic Web Programming</li> </ul>	
REFERENCES	Available upon request.	