FATEME HASHEMI CHALESHTORI

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INTERESTS

- NLP for Social Media Analysis
- Language Grounding
- Machine Learning and its Applications
- Robotics

EDUCATION

Colorado State University (CSU), Fort Collins, Colorado Aug. 2019 - Feb. 2022 (expected)
Master of Computer Science - Advisor: Prof. Indrakshi Ray
Thesis: COVID-19 Misinformation Detection in Twitter Through Authentic News Citation Detection.
Cumulative GPA: **3.91/4**

Amirkabir University of Technology (AUT), Tehran, Iran Sep. 2014 - Jun. 2019
B.Sc., Computer Engineering - Advisor: Prof. Maryam Amir Haeri
Thesis: Parallelizing Anomaly Detection in Smart Home Activities.
Cumulative GPA: **16.66/20**

PUBLICATIONS AND MANUSCRIPTS

- Chaleshtori, F. H., Ray, I. & Ray, I. (Aug 2021). "Automation of Vulnerability Information Extraction Using Transformer-Based Models of Natural Language Processing". International Conference on Information Systems Security (ICISS). (*Under Review*)
- Zou, C., Shirazi, H., Chaleshtori, F. H., Banerjee R. & Ray, I. (Aug. 2021). "Seeing Should Probably not be Believing: The Role of Deceptive Support in COVID-19 Misinformation on Twitter". Journal of Data and Information Quality. (*Under Review*)
- Rahimi, M., Shirazi, M., NajafGholian, A., Chaleshtori, F. H., Moradi, N., Behzad, K., Roodabeh, S. H., Gavahi, A., Moghadam, F. F., GhaziAsgar, A., AlizadehGharib, Y., Memarian, M., Tavakoli, H. & Khosravi, M. A. "Parsian 2018 Extended Team Description Paper for RoboCup". International RoboCup Symposium.
- Rahimi, M., Shirazi, M., Arfaee, M., NajafGholian, A., Zamani, A., Hosseini, H., Chaleshtori, F. H., Moradi, N., Ahsani, A., Jafari, M., Zahedi, A., Abdollahi, P. & Khosravi, M. A. "Parsian 2017 Extended Team Description Paper for RoboCup". International RoboCup Symposium.

RESEARCH EXPERIENCES

Rays Cyber Research Lab, Research Assistant, CSU (Supervised by Prof. Indrakshi Ray and Indrajit Ray) 2020 - 2021

- Working on the intersection of Machine Learning algorithms and Cybersecurity.
- Utilizing state-of-the-art NLP models to process text and analyze them from security perspectives, e.g., vulnerability information extraction, misinformation detection in social media such as Twitter, pretraining a domain-specific natural language representation model to better understand the expressions of individuals in social networks, etc.

Algorithmic Biology Lab, Research Assistant, CSU (Supervised by Dr. Hamidreza Chitsaz) 2019 - 2020

- Studied the prediction of the structures created by RNA-RNA Interactions (RRI) and how to improve the accuracy and speed of the algorithm.

Parsian Robotics Laboratory, Software Team Member, AUT (Supervised by Dr. Mohammad Azam Khosravi) 2016 - 2018

- Working on Small Size Soccer League, aiming to design and build SSL robots, compatible with international RoboCup competition rules as an engineering project.
- One of the oldest RoboCup Soccer leagues focusing on the problem of intelligent multi-agent cooperation and control in a highly dynamic environment with a hybrid centralized/distributed system.
- Combining knowledge of mechanics, electronics, and artificial intelligence, targeting the ideal cooperation between the SSL robots to perform a soccer game.

ON-GOING RESEARCH PROJECTS

- **Incorporating Author's Stance in Similarity-based Misinformation Detection in Social Media**
  Supervisors: Dr. Indrakshi Ray and Dr. Ritweek Banerjee

  As little variations in text with negligible effect on similarity scores can flip the author's stance against the claim made in a piece of information, we exploit this stance in our misinformation detection pipeline. We also pre-train a domain-specific Transformer model on a huge collected COVID-19 Twitter dataset for this project.
- **Topic-oriented Tempo-Spatial Analysis of COVID-19 Tweets**
  Supervisor: Dr. Indrakshi Ray

  We publish a dataset with our analytic topical results based on temporal and geographic information in SUSTAIN data visualization framework. Such analysis highlights the importance of information threads for other researchers, governments, and health organizations.

TEACHING AND MENTORING EXPERIENCES

- Mentor, i-STEM Scholar for 1st-generation, low-income, and underrepresented young students — Summer 2021
- Mentor, Four undergraduate students working on NLP projects, CSU — 2021
- Graduate Teaching Assistant for System Security course, CSU — Fall 2021
- Graduate Teaching Assistant for Introduction to Programming with Python course, CSU — Spring 2020
- Graduate Teaching Assistant for Parallel Programming course, CSU — Fall 2019
- Head Teaching Assistant for Principles of Programming course, AUT — Fall 2015, Fall 2016
- Teaching Assistant for Data Structure and Algorithms course, AUT — Fall 2016

PROFESSIONAL SERVICES

- Conference on Data and Application Security and Privacy 2022, *Reviewer*
- The Web Conference 2021 and 2022, *Reviewer*
- IEEE Transactions on Power Systems 2021, *Reviewer*
- Australasian Conference on Information Security and Privacy 2021, *Reviewer*
- Women in CyberSecurity chapter at Colorado State University, *President*
- C Programming Workshop, 9th AUT Linux and Open Source Software Festival 2017, *Lecturer*

HONORS AND AWARDS

Fully-funded Research Assistantship — 2020
Colorado State University, Fort Collins, CO, USA

Ranked 4th with Parsian Robotics Group in RoboCup Competitions — 2017
Small Size Soccer League, Nagoya, Japan

Gained 3rd Place with Parsian Robotics Group in IranOpen Robotics Competitions — 2017
Small Size Soccer League, Tehran, Iran

Elected as the Most Responsible and Consistent Student — 2018
Bachelor Graduation Ceremony

Ranked top 0.8%, Nationwide University Entrance Exam — 2014
Among Approximately 222,500 Participants in Mathematics and Physics Field

TECHNICAL SKILLS

Programming:
Python, C/C++, Java, CUDA, OpenMP, MPI, VHDL, Verilog, Bash, Assembly

Frameworks & Scientific Tools:
Git, Robotic Operating Systems (ROS), Qt, Octave, MATLAB, Arduino IDE

REFERENCES

Available upon request.