Mohammad Arvan

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Education

- **University of Illinois at Chicago (UIC)** Chicago, IL
  Ph.D., Computer Science *Aug. 2018- May 2023 (expected)*
  - GPA: 4.00/4.00
  - Relevant Coursework: Computer Algorithms, Intro to Machine Learning, Advanced Machine Learning, Natural Language Processing, Deep Learning for Natural Language Processing, Language and Vision, Responsible Data Science and Algorithm Fairness.
- **Qazvin Islamic Azad University** Qazvin, Iran
  Bachelor of Science, Software Engineering *Sep. 2012 – Jan. 2016*
  - Ranked 2nd among 180 students

Selected Technical Skills

Languages Python, Octave/MATLAB, C++, JAVA, C#, SQL
Frameworks PyTorch, NumPy, Numba, TensorFlow, Keras, OpenCV, SciPy, Pandas, Matplotlib, Spacy, Docker

Relevant Experience

- **University of Illinois at Chicago (UIC)** Chicago, IL
  Research Assistant in the UIC NLP Lab, Advised by Dr. Natalie Parde *Aug. 2018 - Present*
  - Explore ways of improving computational efficiency in training and inference of sequence processing neural networks in the language modeling task.
  - Examine techniques for reducing the Time-to-Answer (TtA) of the Transformer-based neural networks on the 'Mathematics Dataset,' a mathematical question answering dataset formulated as a character-level sequence to sequence problem.
  - Implemented a neural reading comprehension model utilizing context-to-query and query-to-context attention on the 'SQuAD 1.1' dataset.
  - Built and evaluated a self-attention based sequence to sequence neural machine translation model on the 'IWSLT 2016 De-En' dataset.
  - Implemented an optical character recognition with Convolutional filters and Conditional Random Fields (CNN-CRF) on 'Tasker's OCR' dataset.
- **Qazvin Islamic Azad University** Qazvin, Iran
  Undergraduate Research Assistant in Mechatronics Research Laboratory (MRL) *Sep. 2013 – Jan. 2017*
  - Created a classifier using AdaBoost for detecting people from a group of predefined geometry features computed from 2-dimensional range scans.
  - Worked on motion planning, and obstacle avoidance of a 4-wheel steered mobile robot in indoor environments.
  - Designed and implemented an exploration strategy for search and rescue scenarios with the objective of maximum coverage while having minimum traveled distance by finding the shortest route for traveling all the nodes in the topological map of the environment. Particle swarm optimization

Publications

- **Mohammad Arvan**, Luís Pina, Natalie Parde. Reproducibility in Computational Linguistics: Is Source Code Enough? The 2022 Conference on Empirical Methods in Natural Language Processing
- **Mohammad Arvan**, Mina Valizadeh, Parian Haghighat, Toan Nguyen, Heejin Jeong, Natalie Parde. OfficeDial: A Multimodal Dataset of Office Dialogues with a Virtual Assistant. The 29th International Conference on Computational Linguistics
- Parian Haghighat, Toan Nguyen, Mina Valizadeh, **Mohammad Arvan**, Natalie Parde, Myunghee Kim, and Heejin Jeong. Human Interaction with Intelligent Virtual Assistant in a Noisy Environment. HFES 66th International Annual Meeting
- **Mohammad Arvan**, Luís Pina, Natalie Parde. Reproducibility of *Exploring Neural Text Simplification Models*: A Review. 15th International Natural Language Generation Conference
- Farshid Najafi, Mehdi Dadvar, Soheil Habibian, Alireza Hosseini, Hossein Haeri, **Mohammad Arvan**, Behzad Peykari, Hamed Bagheri. RoboCup Rescue 2016 Team Description Paper MRL, Robocup Rescue 2016 TDP Collection

Community Service

- Reviewer at 2022 Conference on Empirical Methods in Natural Language Processing
- 2022 Elected Communications Chair of UIC Graduate Employees Organization (GEO)

Selected Honors and Awards

- Ranked top 8% on Stackoverflow's 2020 year
- Recipient of 2020 Provost's Graduate Research Award ($5000)
- Graduate Assistantship, University of Illinois at Chicago (UIC), 2018-2023
- Undergraduate Assistantship, Qazvin Islamic Azad University, 2013-2016
- Ranked 3rd, RoboCup World Championship, Rescue Robot League in Nagoya, Japan, 2017
- Ranked 2nd, RoboCup World Championship, Rescue Robot League in Leipzig, Germany, 2016
- Innovative User Interface Award, RoboCup World Championship, Rescue Robot League in Hefei, China, 2015
- Ranked 1st, RoboCup World Championship, Rescue Robot League in Hefei, China, 2015
- Ranked 2nd, RoboCup World Championship, Rescue Robot League in João Pessoa, Brazil, 2014