Md Mosharaf Hossain

mdmosharafhossain@my.unt.edu ⋄ www.mosharafhossain.github.io

Education

University of North Texas *May 2019 - Dec 2022*
Ph.D., Computer Science and Engineering GPA: 4.0/4.0

Tennessee Tech University *Aug 2016 - Dec 2018*
M.Sc., Computer Science GPA: 4.0/4.0

Coursera.org *Aug 2017 - Apr 2018*
Deep Learning Specialization

Bangladesh University of Engineering and Technology *Dec 2004 - Oct 2009*
B.Sc., Computer Science and Engineering

Research Interests

Natural Language Understanding and Generation, Computational Linguistics, Artificial Intelligence, Deep Learning

Employment History

Graduate Research Assistant, CSE, UNT May 2019 - Current

· I do research in natural language processing, particularly on natural language understanding and generation. Majority of my work focuses on understanding and inference with negation in monolingual and multilingual settings. Advisor: Dr. Eduardo Blanco, Assistant Professor, UNT

Research Intern, Analytics and Machine Intelligence, Raytheon May 2020 - Aug 2020

· Explored *joint neural models* and *global features* based ideas for Information Extraction (IE).
· Explored the impact of *context* as well as capability of *active learning* techniques to solve downstream tasks of IE such as named entities recognition, events and relations extractions.

Machine Learning Research Intern, Oak Ridge National Lab May 2017 - Aug 2017

· Performed research on memory requirement analysis, hyperparameter optimization, time complexity, and usability of the popular Convolutional Neural Network architectures (e.g., GoogLeNet, ResNet).

Data Engineer, GrameenPhone Ltd. Mar 2012 - Dec 2015

· Developed advanced analytics models such as churn prediction, cross sell/up sell, customer profiling and segmentation.

Publications

1. **Md Mosharaf Hossain**, Venelin Kovatchev, Pranoy Dutta, Tiffany Kao, Elizabeth Wei and Eduardo Blanco. An Analysis of Natural Language Inference Benchmarks through the Lens of Negation. In Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (**EMNLP**), pp.9106–9118.
2. **Md Mosharaf Hossain**, Antonios Anastasopoulos, Eduardo Blanco and Alexis Palmer. 2020. It's not a Non-Issue: Negation as a Source of Error in Machine Translation. In Findings of the 2020 Conference on Empirical Methods in Natural Language Processing (**Findings of EMNLP**).

3. **Md Mosharaf Hossain**, Kathleen Hamilton, Alexis Palmer and Eduardo Blanco. 2020. Predicting the Focus of Negation: Model and Error Analysis. In Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (**ACL**).
4. **Md Mosharaf Hossain**, Thomas M. Hines, Sheikh K. Ghafoor, Sheikh Rabiul Islam, Ramakrishnan Kannan, and Sreenivas R. Sukumar. A flexible-blocking based approach for performance tuning of matrix multiplication routines for large matrices with edge cases. In 2018 IEEE International Conference on Big Data (Big Data), IEEE.
5. A. H. M. Jakaria, **Md Mosharaf Hossain**, and Mohammad Ashiqur Rahman. Smart weather forecasting using machine learning: a case study in tennessee. arXiv preprint arXiv:2008.10789 (2020).

Talks

1. Presented paper at the Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP), November 2020.
2. Presented paper at the Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (ACL), July 2020.

Teaching Experiences

At **Tennessee Tech University**

Spring 2017	CSC 2700 Discrete Structures for Computer Science
Fall 2018	CSC 2500 Unix Lab

Technical Skills

Programming:	Python, C++, Java, R, Matlab, MPI, CUDA
Machine Learning	Neural Networks, Bayesian Inference, SVM, PCA, BiLSTM, CNN
Pre-trained models	GloVe, ELMo, BERT, XLNet, RoBERTa, mBERT
ML Tools	PyTorch, Keras, TensorFlow