Asadullah Hill Galib

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Education

Ph.D. in **Computer Science and Engineering** *August 2020 - Present*
Michigan State University, MI, USA , CGPA: **3.92**/4.00
Advisor: Dr. Pang-Ning Tan, Domain: Deep Learning, Spatio-Temporal Analysis, Extreme Value Theory, Tipping Point

M.Sc. in **Software Engineering** *January 2019 - December 2020*
University of Dhaka, Dhaka, Bangladesh , CGPA: **3.54**/4.00
Thesis: Significant Features Analysis For Android Malware Detection Using Machine Learning Techniques

B.Sc. in **Software Engineering** *January 2015 - December 2018*
University of Dhaka, Dhaka, Bangladesh , CGPA: **3.33**/4.00

Technical Skills

Programming Languages: Python, Java, C, C++, PHP, JavaScript, Assembly
Machine Learning & Deep Learning: PyTorch, Keras, TensorFlow, scikit-learn, pandas, NumPy, MATLAB
Miscellaneous: MySQL, Oracle, SQLite, React, jQuery, React Native, Laravel, Selenium, Foritfy, Git, Agile, MVC, SRS

Experience

Graduate Teaching Assistant, *Michigan State University (CSE)* *August 2020 - December 2021*
- Lead classes and labs of 260+ students of *CSE 102: Algorithmic Thinking and Programming (Python)*

Software Developer & Executive Assistant (Internship), *Brain Station 23* *January 2018 - June 2018*
- Developed from scratch and maintained a web application and a mobile application, using Laravel Framework, PHP, MySQL, React-Native, Redux-Saga, Android Studio, Postman and proper version-controlling (Git, SourceTree).
- Analyzed requirement specification and design of an existing system for re-engineering. Analyzed two e-commerce frameworks.

Academic and Research Projects (Details and full list)

- **Predicting GitHub Issues Lifetime using Machine Learning and Topic Modeling (LDA):** It outperforms previous approach with a high precision and f1- measure. Also, it extracts distinguishable and comprehensible topics from issues. Manuscript Ready.
- **Pre-birth Factors in the Early Assessment of Child Mortality using Machine Learning Techniques:** It achieves an AUC score of 0.947 which outperforms the clinical standards. Also, it assess the relative importance of the factors. Manuscript Ready.
- **Optimizing Search Space in Code Smells Detection using a Novel Metric:** Significantly reducing search space (i.e., 93% to 21%) using a novel metric called - NCPC, while maintaining the performance of code smells detection. Manuscript Ready.
- **Analyzing co-authorship network: Centrality Measure, Link Prediction, and Community Detection:** It analyzes a network of researchers co-authorship relations with eigenvalue centrality, logistic regression and a community detection algorithm.
- **Image-to-Image Translation using Conditional GAN:** It generates colored images from sketches using a generative model - Conditional GAN. It incorporates the architecture and guidelines proposed by a CVPR 2017 study (Isola et al.).

Publications

- **Galib, A. H.**, McDonald, A., Wilson, T., Luo, L., & Tan, P. N. (2022, Feb.). Forecasting Block Maxima in Time Series with Varying Temporal Data Availability using Deep Neural Networks. Manuscript **submitted to KDD 2022**.
- Wilson, T., McDonald, A., **Galib, A. H.**, Luo, L., & Tan, P. N. (2022, Feb.). Beyond Point Prediction: Capturing Zero-Inflated & Heavy-Tailed Spatiotemporal Data with Deep Extreme Mixture Models. Manuscript **submitted to KDD 2022**.
- **Galib, A. H.**, McDonald, A., Wilson, T., Luo, L., & Tan, P. N. (2021, Dec.). DeepExtrema: A Deep Learning Approach for Forecasting Block Maxima in Time Series Data. Manuscript **submitted to IJCAI 2022**.
- **Galib, A. H.**, & Hossain, B. M. (2020, Jul.). Significant API Calls in Android Malware Detection (Using Feature Selection Techniques and Correlation Based Feature Elimination). In Proceedings of the 32nd International Conference on Software Engineering Knowledge Engineering (**SEKE 2020**) (pp. 566-571).
- **Galib, A. H.**, & Hossain, B. M. (2019, Dec.). A Systematic Review on Hybrid Analysis using Machine Learning for Android Malware Detection. In 2019 2nd International Conference on Innovation in Engineering and Technology (**ICIET 2019**) (pp. 1-6). IEEE.
- Yasir, R. M., Asad, M., **Galib, A. H.**, Ganguly, K. K., & Siddik, M. S. (2019, May). GodExpo: an automated god structure detection tool for Golang. In Proceedings of the 3rd International Workshop on Refactoring (**IWOR 2019**) (pp. 47-50). IEEE.

Leadership Activities

Organizer, First Software Industry-Academia Collaboration Session with 10 leading companies (2017), Boot Camp on technology for peace, Seminar on the fourth industrial revolution, Workshops on secured internet protocol and IT awareness for females.
Vice President & Treasurer, IIT Software Engineers' Community, University of Dhaka