Khaled Mohammed Saifuddin

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Research Interest: Graph Mining, Graph Neural Networks, Bioinformatics, and NLP

TECHNICAL SKILLS

Programming Languages: Python, Spark, Java, C, C++, SQL, NoSQL, shell, MATLAB, PHP, JavaScript, HTML, CSS
ML/DL and Others: NLP, Machine Learning, Deep Learning, Graph Neural Networks, and Hypergraph Neural Networks, Time-series Analysis, and good hands-on Data Cleaning, Analysing, and Visualizing
ML/DL and Tools: TensorFlow, Pytorch, Keras, Scikit-learn, Pandas, NumPy, SciPy, GraphX, NetworkX, and DGL (Deep Graph Library)
Big Data and Distributed Computing: Hadoop, Apache Kafka, Apache Flume, HiveQL, HBase, MapReduce
Applications and Services: AWS, Git, Cisco CCNA, Google Cloud Platform (GCP), Microsoft Excel

EDUCATION

Ph.D. candidate (Transfer), Computer Science, Georgia State University — **Aug 2022 - Present**
Ph.D. in Computer Science, Oklahoma State University, **CGPA: 3.872/ 4.00** — ***Aug 2019 – Aug 2022***
Stillwater, Oklahoma, USA
BSc. In Electronics and Communication Engineering, Khulna University of Engineering and Technology — ***Mar 2013 - Jun 2017***
Khulna, Bangladesh
CGPA: 3.84/4.00 (last 07 terms out of 08 terms)

WORK EXPERIENCES

Internship: AI researcher and Data Scientist — ***May 2022- Aug 2022***
KROLL, Richardson, Tx
- **Worked on a project related to text-graph and GNN for industry classification**

Research Assistant — ***Jun 2020 –May 2021***
Data Engineering Lab (Link), Oklahoma State University
Research Projects:
- Drug-Drug Interactions prediction via Hypergraph Neural Networks
- HAN-DDI: Heterogeneous Graph Attention Networks for DDI prediction
- Developed algorithm for Hypergraph Attention Networks to get a better representation of Hyperedges and nodes
- Drug abuse detection from Twitter-sphere using different Graph Neural Networks-based approach
- Design an algorithm to analyze the effect of COVID-19 on individuals in Opioid addiction recovery

Teaching Assistant, Oklahoma State University — ***Aug 2019 – Present***
Courses taught: Cloud Computing and Distributed Systems, Data Structures and Algorithm Analysis I, C/C++ Programming
Lecturer- Computer Science and Engineering, Premier University, Chittagong, Bangladesh — ***Aug 2017 – Jun 2019***
Project Engineer, Robi Axiata Limited, Dhaka, Bangladesh — ***Apr 2017 – Aug 2017***

PUBLICATIONS (Link)

1. HyGNN: Drug-Drug Interaction Prediction via Hypergraph Neural Network **(**Invited to submit final revised version **at ICDE'23)**
2. HAN-DDI: Heterogeneous Graph Attention Networks for DDI prediction **(Accepted at BioKDD'22)**
3. Drug abuse detection from Twitter-sphere: Graph Neural Networks based approach **(Accepted at IEEE BigData-21)**
4. Effects of COVID-19 on individuals in Opioid addiction Recovery **(Accepted at ICMLA-21)**
5. Drug-Drug Interaction Prediction: a Purely SMILES Based Approach **(Accepted at IEEE BigData-21)**
6. Identification and volume estimation of dental caries using CT image
7. Detection of primary user emulation attack in cognitive radio environment
8. Performance analysis of cognitive radio: Netsim viewpoint
9. A Simplistic, Effective, and Adaptive Approach towards Classifying Medical Records according to ICD-10 using Machine Learning for Efficient Statistics
10. Simplistic Approach to Design an Affordable Prototype of Object Finding Device
11. Watchdog and Pathrater based intrusion detection system for MANET
12. Automatic Digit and Alphabet Recognition Based Online Toll Collection System

VOLUNTARY EXPERIENCES

Conference reviewer: NeurIPS'22, ECML PKDD'22, KDD2022UG, Complex Networks 2021
Vice President: Bangladesh Student Association (BSA), Stillwater, OK, USA
Principal Coordinator: Manipulator of Electron Club (MEC) of Khulna University of Engineering and Technology

COURSE PROJECTS (Grad)

- Developing a K-Connected Components-based personalized community detection model

- Detection and early prediction of Acute Hypotensive Episode **(AHE)** using Deep Learning **(LSTM)**
- Implementation of item-item collaborative filtering and latent factor model for movie recommendation **(Spark platform)**
- Identifying plagiarized documents using Locality Sensitive Hashing
- Community Detection using BigCLAM **(Spark platform)**
- Distributed Market Basket Analysis **(Spark platform)**
- A complete management of a flight reservation/booking system using a multi-thread concept with proper synchronization (locks/semaphore) and message passing in a client-server environment
- Project on a sovereign or semi-sovereign Identity Management System in a centralized manner with ensuring Privacy and Anonymity

AWARD and SCHOLARSHIP

- **Outstanding Research Award, CS, OSU**
- **1st place Dell-Intel Student Award for Outstanding Use of Data Science and Computing**
- **Women's Faculty Council Student Research Award,** Oklahoma State University
- **Computer Science Fellowship** Awarded by Department of Computer Science, Oklahoma State University
- **Dean's Award** Awarded by Khulna University of Engineering and Technology