

Farhan Asif Chowdhury

fasifchowdhury@unm.edu • +1 (505) 219-8786 • <https://www.cs.unm.edu/~aumyfarhan/> • <https://github.com/aumyfarhan/>

EDUCATION

The University of New Mexico (UNM), Albuquerque, USA

- Ph.D. in Computer Science (CGPA: 3.99/4.00) Aug 2017 – May 2022 (Expected)
 - Adviser: Dr. Abdullah Mueen
 - Research areas: Temporal Data and Social Media mining, Event and Anomaly detection.

Bangladesh University of Engineering & Technology (BUET), Dhaka, Bangladesh

- B.Sc. in Electrical & Electronic Engineering Feb 2011 – Mar 2016
 - Thesis: Automatic Segmentation of Breast Lesions in B-Mode Ultrasound Image.
 - Adviser: Dr. Md. Kamrul Hasan

PUBLICATIONS

- [1] **Farhan Asif Chowdhury**, Satomi Suzuki, and Abdullah Mueen. **Structured Noise Detection: Application on Well Test Pressure Derivative Data**. In *Proceedings of the 25th ACM SIGKDD International Conf on Knowledge Discovery & Data Mining (KDD)*, pages 2952–2960. ACM, 2019.
- [2] **Farhan Asif Chowdhury**, Lawrence Allen, and Abdullah Mueen. **On Twitter Purge**. *Work in Progress Paper. 14th international AAAI conference on web and social media (ICWSM)*, 2020.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Dept of Computer Science, UNM

Jan 2018 – Present

- **Characterization and Detection of Malicious User Behavior on Social Media**
 - Developed a Twitter data crawler; streamlined data collection, filtering, and storage process.
 - Crawled 560 Million(M) Twitter user info & 300M Tweets; and analyzed (tweet content, user info & activity pattern) to characterize and model malicious vs non-malicious users.
 - Currently developing a real-time, adaptive and scalable algorithm for malicious user and coordinated malicious activity detection on social media.
- **A Real-time Twitter Analytics Dashboard (Designed & Developed)**
 - Functionality: Hashtag & User Activity Tracking, Identifying frequent Word/Hashtag/URL & Influential users, Tweet filtering & classification (i.e. sentiment, intent, spam), Info-graphic visualization.
- **Event and Anomaly Detection in Pressure Sensor Data (Sponsored by ExxonMobil)**
 - Developed a semi-supervised algorithm using Singular Spectrum Analysis for Structured Noise detection in Oil/Gas well pressure data to automate Pressure Transient Analysis; created a user interface.

Graduate Research Assistant, Dept of Mechanical Engineering, UNM

Sep 2017 – Apr 2018

- **Power Distribution Infrastructure Detection from Street-view Image using Deep Learning**
 - Developed an API to extract 360 degree Google street-view image using Google Maps API.
 - Applied deep learning methods to detect utility pole from low-resolution image.

Lecturer, Dept of Computer Science, Daffodil Int. University, Bangladesh

Sep 2016 – Aug 2017

- Conducted theory and lab courses, and advised projects on Digital Logic Design.

Undergrad Research Assistant, DSP Research Lab, BUET

Mar 2015 – Jun 2016

- Developed an algorithm for automated Breast Lesions segmentation from B-mode Ultrasound image.

SELECTED PROJECTS

- Traffic sign detector and classifier in street view image using **CNN, SSD and R-CNN** algorithms (implemented in **Keras and TensorFlow**); performed a comparative analysis of their accuracy.
- **Multi-class, Multi-label classifier** of Human Protein Atlas image using **Deep Learning in Kaggle**.
- Document classifier using **Logistic Regression and Naive Bayes** classifier; used **Mutual Information** for important **feature selection**.
- Music genre classifier using **SVM, ANN**; performed **feature engineering** to improve accuracy.
- Supersense Tagger: A contextual semantic labeler of noun & verb using **Hidden Markov Model**.
- Influential user set identifier in social network using **Genetic Algorithm**.
- Peer-to-Peer Marketplace website using **MySQL, Python** for backend and **JavaScript** for frontend.

SKILLS

Programming: Python, C/C++, Java, R.

Web & DB: MySQL, PostgreSQL, HTML, PHP.

Tool: MATLAB, AWS, Docker, Heroku, Git.

Framework: TensorFlow, Keras, Flask, OpenCV.