SOUMIK SARKER ANIK

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SUMMARY

Master's graduate in Software Engineering with almost three years of research and industry experience in the field of machine learning and data science. Highly proficient in deep learning models and fuzzy logic systems. Co-author of three journal articles and two conference papers with a focus on predictive modeling and the analysis of complex geospatial, healthcare and time series datasets. Fast learner, self-motivated, and tech enthusiast with excellent analytical and coding skills proven through work experience.

EDUCATION

Memorial University of Newfoundland 2023- 2025
Masters of Applied Science, *Software Engineering* St John's, NL

North South University 2017-2021
Bachelor of Science, *Computer Science - GPA 3.77/4.00 (Magna Cum Laude)* Dhaka, Bangladesh

WORK EXPERIENCE

Machine Learning Engineer (Intern) 09/2024-12/2024

Exxon Mobil Corporation and Memorial University

- Developed and implemented unsupervised ML models for anomaly detection in industrial machinery time series data.
- Performed necessary feature engineering and preprocessing steps on the data to enhance model performance
- Utilized Azure Databricks and Azure Data Explorer (ADX) for data extraction and contributed to designing the solution architecture.

University Research Assistant 09/2019-02/2022

North South University

- Published three journal articles and two book chapters showcasing expertise in advanced ML algorithms across domains, with over 60 citations.
- Implemented different classification, clustering, and hybrid neural network models with my research team of five people
- Conducted research in diverse domains, including healthcare analytics (COVID-19 transmission modeling), geospatial analysis (flood risk assessment), and transportation safety (accident severity prediction).

University Teaching Assistant 05/2019-10/2020

North South University

- Assisted respective faculty members in preparing lesson plans, graded assignments, and quiz scripts for each section
- Gave one-to-one consultations to over 30 students about the topics covered in classes

PROJECTS AND PUBLICATIONS

- **Time Series Anomaly Detection in Gas Compression Data** (**Project**)
  Developed unsupervised models (DBSCAN, Isolation Forest) to identify equipment anomalies using time series sensor data.
- **Flood Risk Assessment in Bangladesh (Publication – Geocarto International, 2022)**
  GIS-based national-scale flood risk modeling using hybrid DNN and fuzzy AHP methods.
- **Hybridized SVR for Flood Susceptibility Mapping (Publication – IEA/AIE 2021)**
  Applied Genetic Algorithm-optimized SVR models for flood susceptibility prediction using GIS data.
- **Fuzzy SEIRD for COVID-19 Analysis (Publication – Int. J. of Modern Physics C, 2022)**
  Enhanced SEIRD model using fuzzy logic to simulate SARS-CoV-2 transmission dynamics.
- **Linguistic Fuzzy Rule-Based COVID-19 Modeling (Publication – Int. J. of Fuzzy System Applications, 2022)**
  Developed theoretical compartmental models using fuzzy linguistic rules for pandemic prediction.
- **Road Crash Severity Prediction Using Machine Learning (Publication – ICCCI 2020)**
  Machine learning-based approach using AHC, Random Forest, and C5.0 models for crash severity prediction.

SKILLS

- Programming Languages: Python, R, SQL
- Machine learning and NLP: scikit-learn, keras, tensorflow, pytorch,NLTK
- Data Visualizations: Matplotlib, Seaborn, PowerBI
- MLOps and DevOps: CI/CD pipelines, MLflow, version control(Git), Azure Databricks, Azure Data Explorer (ADX)
- Domain Specific: Healthcare Data Analytics and Modelling, Geospatial Data Analysis, Hybrid ML models, Time series Data Analysis, Predictive Modelling, Anomaly Detection
- Soft Skills and Collaboration: Problem Solving, Teamwork and Collaboration, Self Motivated, Research and strategy