

SUMYEA RAHMAN

(+1) 984-683-3662 ◊ Raleigh, NC 27606, USA

sumyear6@gmail.com ◊ [LinkedIn](#) ◊ <https://sumyea-r.github.io/>

RESEARCH INTEREST

Machine Learning, Process Mining, Big Data Analytics, Computer Vision.

EDUCATION

MSc in Data Science

Expected Mar 2024

RWTH Aachen University

CGPA: 2.4 (German Scale)

Relevant Coursework: Computer Vision, Mathematical Foundations of Machine Learning, Introduction to Data Science, Machine Learning, Business Process Intelligence

BSc Computer Science and Engineering

2014 - 2018

Bangladesh University of Engineering and Technology

CGPA: 3.26/4.00

RESEARCH EXPERIENCE

Student Research Assistant

Sep 2022 - Feb 2024

[Institute of Process and Data Science](#), RWTH Aachen University

Aachen, Germany

Project: PM Flair

- Analyzed event data using Process Mining and Machine Learning techniques to find out the bottleneck of material handling processes.
- Used data cleaning on raw logistic event log to generate petri net and used CPN tool on these petri net to generate simulated logistic event log.
- Employed feature engineering on the simulated logistic event log and applied machine learning models for predictive business process monitoring.

MSc Thesis

July 2023 - Jan 2024

[Institute of Process and Data Science](#), RWTH Aachen University

Aachen, Germany

Advisor: [Dr. Wil van der Aalst](#)

Title: Enhancing Object-Centric Event Log Analysis: A Study on Textual Abstractions, Querying Mechanisms, and Application of Large Language Models

- Innovative Integration: Combines Textual Abstractions, Querying Mechanisms, and Large Language Models to enhance Object-centric Event Log (OCEL) analysis.
- Detailed Abstractions & Novel Querying: Develops intricate textual abstractions to represent object relationships and dependencies, facilitating intuitive exploration of complex process data.
- Performance Evaluation & Future Prospects: Evaluates the precision of Large Language Models in translating queries and suggests broader implications for democratizing OCEL analysis and advancing object-centric process mining.

PROFESSIONAL EXPERIENCE

Senior Software Engineer

Dec 2018 - Mar 2022

Samsung Research

Dhaka, Bangladesh

- Implemented (partial) and maintained the Webcore module of Samsung Internet for Android phones which led to 60% reduction of issues reported in this module.
- Developed (partial) and maintained the code base of Webcore and Rendering module of Chromium EFL (Tizen's implementation of Chromium Engine for Samsung Smart Watches) which led to 5% increase in downloads of the app.

- Proposed and developed a new approach (using NLP) to optimize the Recommendation Engine of Samsung.
- Proposed a new federated learning approach in the recommendation engine to maintain user's privacy.

PATENT

- **Method and apparatus for uwb based horn system for smart vehicles** (application filing in process).
Imranur Rahman, *Sumyea Rahman*, Faisal Khan, Md. Jobed Hossain, Md. Mahmud Muntakim Khan

PROJECTS

Causal Inference on Agrivoltaics Data. Analyzed Germany wide [Agrivoltaics data](#) using geopandas and explored the impact of outside factors (e.g., geographic orientation, taxation) on the number of solar plant and the power loss in an area.

Replication. Replicated [Remaining Time Prediction for Processes with Inter-Case Dynamics](#), expanded the analysis with other dataset and validated their results.

Diabetes Info Logger. Build a database centered software using Oracle RDBMS and Google firebase's noSql. This software was developed for collecting data for thesis related work.

KickStarter. Build a fund raising platform for new ideas and creative projects using Spring framework, MySQL, JavaScript, HTML, and CSS.

Public Grievance Redress and Monitoring System. Build an open platform for public to file complaints and get updates about the actions taken against their complaints using Spring framework, MySQL, JavaScript, HTML, and CSS.

Trip Advisor and Guide. Build a tourist guiding system where an user can book a trip including hotels and tour guide and get suggestion about travel destinations using SQL, JSP, Servlets, and HTML.

SKILLS

Technical Skills Python, Tensorflow, Java, L^AT_EX, Excel, Pm4py ProM, C/C++