

MUMTAHINA AHMED

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Summary

Computer Science graduate student and Data Engineer with 5+ years of experience designing and optimizing data pipelines, performing large-scale data analysis, and applying AI techniques to real-world datasets. Proficient in SQL, DBT, and BigQuery within Google Cloud Platform environments.

Technical Skills

Programming Python, C, Java, Shell, SQL, R, HTML, Matlab

AI & Analytics Scikit-learn, Transformers, TensorFlow, Keras, Pandas, NumPy, Matplotlib, Google Colab.

Data Engineering Big Query, DBT, Data Warehousing, SQL, Firebase, MySQL Workbench, ELT pipelines, Data Validation

Version Control Git, GitHub

Professional Experience

Research Assistant

Saskatoon, Canada

University of Saskatchewan

September 2023 - Present

- Built and optimized data pipelines for analyzing software engineering datasets using Python and SQL.
- Applied ELT workflows to clean, transform, and integrate multi-source data for maintainability analysis.
- Collaborated with cross-functional researchers to generate structured insights and visualizations from raw datasets.

Lecturer

Chittagong, Bangladesh

East Delta University

January 2023 – August 2023

- Delivered lectures on the basis of the course syllabus, and taking classes, quizzes, exams, and self-assessment sessions.
- Assisted in course grading and exam invigilation for computer science courses.
- Supervised and guided student's work and activities inside and outside the classroom.

Research Assistant

Chittagong, Bangladesh

Sustainable Computing Lab

January 2020 – December 2022

- Developed and maintained NLP data pipelines to process large text datasets using Python, Pandas, and TensorFlow.
- Implemented scalable ETL workflows for data preprocessing, model training, and performance evaluation.
- Ensured data integrity and reproducibility through version-controlled, automated pipelines.

Lecturer

Chittagong, Bangladesh

Port City International University

May 2021 – December 2022

- Designed instructional plans and modified curricula to enhance course relevance and effectiveness.
- Prepared learning materials, evaluated student progress, and managed examination processes.

Education

University of Saskatchewan

Master of Science in Computer Science
Software Research Lab

Saskatoon, Canada

September 2023 - Present

University of Chittagong

Bachelor of Science in Computer Science
CGPA: 3.78 on a scale of 4.00

Chittagong, Bangladesh

January 2016 - December 2019

Projects

Impact of Test Mocking on Code Maintainability

SRLAB, USASK

Saskatoon, Canada

September 2023 - September 2025

- Monitored the impact of *Mockito* usage on method-level software maintainability across 50 open-source Java projects.
- Used *CodeShovel* to track 87,014 methods and 18 quality metrics, to analyse software maintenance and code quality.

Exploring Challenges in Test Mocking

SRLAB, USASK

Saskatoon, Canada

September 2023 - September 2025

- Designed a data pipeline to analyze 25,302 stackoverflow questions on test mocking to identify developer's challenges.
- Used LDA topic modeling to identify 30 topics, grouped into five key categories and track their evolution over time.

Stance Detection on Microblog

University of Chittagong

Chittagong, Bangladesh

July 2019 - July 2020

- Improved performance of stance detection model combining linguistic features and deep semantic features.
- Constructed a unified neural framework using Conv-BiLSTM and MLP architectures with supervised feature selection.

Explainable Model for Fake News Detection

University of Chittagong

Chittagong, Bangladesh

August 2020 - December 2021

- Developed integrated LIME-BiLSTM model for COVID-19 fake news classification.
- Improved classification accuracy using BiLSTM, and LIME ensured transparency and explainability.

Awards and Organizing Abilities

- Served as an external reviewer for the CASCON 2025 conference.
- CGPS 75th Anniversary Recruitment Scholarship University of Saskatchewan.
- Organized the "8th Symposium on Innovations in Computer Science and Applied Computing and SOAR Symposium 2024" at University of Saskatchewan.
- Presented Paper in ICCIP, University of Tokyo, Tokyo, Japan.