AMINUL ISLAM

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Google Scholar, LinkedIn, GitHub

RESEARCH INTERESTS

My research interests broadly lie at the intersection of data science and machine learning. More specifically, the vision of my research is to address various biases (e.g., position bias, selection bias, popularity bias) in different recommender systems (e.g., learning-to-rank, collaborative filtering, generative AI) to facilitate unbiased and fair recommendations. My current works focus on applying causal inference techniques, econometric models, and post-hoc methods to mitigate different types of biases in learning-to-rank systems and graph-based recommender systems. However, I am also interested in other compelling applications within recommender systems, e-commerce, and broader data science.

EDUCATION

PhD Student in Computer Science, University of Illinois Chicago Jan. 2023 to present
CGPA: 4.0/4.0
Advisor: Dr. Elena Zheleva

B.Sc. in Computer Science & Engineering Jul. 2014 to Oct. 2018
Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
CGPA: 3.57/4.0

WORK EXPERIENCE

Graduate Research Assistant, University of Illinois Chicago May 2024 to present

- I am working under the supervision of Dr. Elena Zheleva. I am working on two projects that use econometric methods to correct biases in learning-to-rank systems, and another project addressing biases in graph-based recommender systems. A preprint of one of the projects is available at arXiv.

Visiting Student Researcher, IDEAL Research Institute May 2025 to Oct. 2025

- I have worked as a visiting student researcher at IDEAL (The Institute for Data, Econometrics, Algorithms, and Learning) under the supervision of Dr. Ren Wang. I worked on addressing popularity bias in GNN-based collaborative filtering in a post-hoc manner. A preprint of the paper is available at arXiv.

Graduate Teaching Assistant, University of Illinois Chicago Jan. 2023 to May 2024

- I worked as a teaching assistant for *Programming Practicum* and *Introduction to Data Science* courses.

Software Engineer, Ridmik Labs, Dhaka, Bangladesh Nov. 2018 to Dec. 2022

- I was a Software Engineer at Ridmik Labs, where I was one of the main developers of the Bengali Ridmik Keyboard, which has over 200 million users. I also had experience building large-scale native Android and iOS apps (e.g., Boitoi-Android, Boitoi-iOS), where I was responsible for completing most of the features and functionalities. These apps now have millions of users. I also had expertise in developing a Bengali news article summarizer, web applications, backend systems, REST APIs, Web2 end-to-end encryption, account kit, and ensuring data privacy and security in software applications.

AIST Web Application, Department of CS, BUET May 1, 2021 to July 31, 2021

AIST Project is a web application for users to visualize the predictions of AIST (An Interpretable Attention-based Deep Learning Model for Crime Prediction).

SELECTED COURSEWORK

- Machine Learning
- Causal Inference
- Graph Machine Learning
- Information Retrieval
- Statistical NLP
- Artificial Intelligence
- Pattern Recognition
- Mathematical Analysis for CS
- Operating System

SKILLS

Programming Languages: Python, Java, Swift, Kotlin, C, C++, Assembly (80X86)
Scripting Languages: JavaScript, Shell Scripts, Java Native Interface (JNI), HTML, CSS
Mobile Application Development & Frameworks : Android, iOS, Django
Database: SQL, Oracle
Security: AES (CBC & ECB), CommpnCrypto API, iOS Keychain
Tools & Others: Pandas, PyTorch, Tensorflow, OpenAI API, NLTK, REST API, Beautiful Soup, Seaborn, Firebase, Google ML Kit & Vision API, Google Map API, LaTeX

REVIEWER

WWW'25 and SDM'25