

AMINUL ISLAM

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[Google Scholar](#), [LinkedIn](#), [GitHub](#)

RESEARCH INTERESTS	<p>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 personalized recommender systems. However, I am also interested in other compelling applications within recommender systems, e-commerce, and broader data science.</p>	
EDUCATION	PhD Student in Computer Science, University of Illinois Chicago CGPA: 4.0/4.0 Advisor: Dr. Elena Zheleva	Jan. 2023 to present
	B.Sc. in Computer Science & Engineering Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh CGPA: 3.57/4.0	Jul. 2014 to Oct. 2018
WORK EXPERIENCE	Graduate Research Assistant, University of Illinois Chicago <ul style="list-style-type: none">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. Internship, IDEAL Research Institute <ul style="list-style-type: none">I have worked as a student researcher at IDEAL (The Institute for Data, Econometrics, Algorithms, and Learning) with 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 <ul style="list-style-type: none">I worked as a teaching assistant for <i>Programming Practicum</i> and <i>Introduction to Data Science</i> courses. Software Engineer, Ridmik Labs, Dhaka, Bangladesh <ul style="list-style-type: none">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. Moreover, I contributed to the development of RidmikChat, a messaging app based on the XMPP protocol. 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.	May 2024 to present May 2025 to Oct. 2025 Jan. 2023 to May 2024 Nov. 2018 to Dec. 2022

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).

PUBLICATIONS

Md Aminul Islam, Kathryn Vasilaky, and Elena Zheleva. Correcting for position bias in learning to rank: A control function approach. In [arXiv](#). (under review)

Md Aminul Islam, Elena Zheleva, and Ren Wang. Post-hoc Popularity Bias Correction in GNN-based Collaborative Filtering. In [arXiv](#). (under review)

SELECTED COURSEWORK

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

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), CommnCrypto 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, L^AT_EX

REVIEWER

WWW'25 and SDM'25