

Ishrat Jahan Eliza

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RESEARCH INTEREST

Accessibility — Data Visualization — Human-Computer Interaction — Human-Centered Data Science

EDUCATION

Kahlert School of Computing, University of Utah

Salt Lake City, UT 84112

Ph.D. Fellowship in Computer Science

August 2023 - Current

- **Lab:** [Visualization Design Lab](#)
- **Supervisor:** [Prof. Alexander Lex](#)
- **Course Highlights:** Human-Computer Interaction, Visualization for Data Science

Bangladesh University of Engineering and Technology

Dhaka-1000, Bangladesh

BSc in Computer Science and Engineering

Feb 2017 - May 2022

- **CGPA:** 3.51/4.00
- **Final two-year CGPA:** 3.816
- **Thesis:** eDakterBari - A Human-Centered Solution Enabling Online Medical Consultation for Resource-Constrained Communities in Bangladesh
- **Supervisor:** [Dr. A. B. M. Alim Al Islam](#)
- **Course Highlights:** Machine Learning, Human-Computer Interaction, Algorithm Engineering, High-Performance Database, Network Security, Computer Graphics, Artificial Intelligence, Computer Networks, Operating Systems, Compiler, Software Engineering

Savar Cantonment Public School and College

Dhaka, Bangladesh

Higher Secondary Certificate

2014 - 2016

- GPA: 5.00/5.00

Savar Cantonment Board Girl's High School

Dhaka, Bangladesh

Secondary School Certificate

2014

- GPA: 5.00/5.00

RESEARCH EXPERIENCE

Publications

eDakterBari: A Human-Centered Solution Enabling Online Medical Consultation and Information Dissemination for Resource-Constrained Communities in Bangladesh

Journal: *Heliyon*

Human-Centered Computing

- **Authors:** Ishrat Jahan Eliza, Mobasshira Akter Urmi M.D. Tousif Tanjim Anan, Tanveer Hossain Munim, Fattah-Zul-Ikram Galib, A.B.M. Alim Al Islam
- **DOI:** [10.1016/j.heliyon.2023.e23100](https://doi.org/10.1016/j.heliyon.2023.e23100)
- **Supervised by:** [Dr. A. B. M. Alim Al Islam](#)
- **My contribution:** eDakterBari is a platform for providing health services to orphans, a community in Bangladesh with limited resources. This is my undergraduate thesis work. I contributed to this project by conducting semi-structured surveys and by taking part in the development of a mobile application to support healthcare consultation via intermediation.
- **Tools:** Flutter, Dart.

Note: CORONOSIS: Corona Prognosis via a Global Lens to Enable Efficient Policy-making Both at Global and Local Levels

COMPASS '22: ACM SIGCAS/SIGCHI

Conference on Computing and Sustainable Societies

Mathematical Computing and Statistical Analysis

- **Authors:** Ishrat Jahan Eliza, Md Hasibul Husain Hisham, Mohammad Nuwaisir Rahman, Ajwad Akil, Abir Mohammad Turza, Fahim Morshed, Nazmus Sakib, Sriram Chellappan, A. B. M. Alim Al Islam
- **DOI:** [10.1145/3530190.3534831](https://doi.org/10.1145/3530190.3534831)
- **Supervised by:** [Dr. A. B. M. Alim Al Islam](#) and [Dr. Sriram Chellappan](#)
- **My contribution:** I contributed to this project by conducting statistical analysis to identify relationships between various environmental, socioeconomic, and COVID-19 variables (death, affected). In addition, the other member of the data analysis team and I performed prediction analysis using the epidemiological model SIRD. Later, to make it accessible online, I placed the entire project in the AWS.
- **Tools:** Python, AWS.

Revealing Influences of Socioeconomic Factors over Disease Outbreaks

Exploratory Data Analysis

- **Authors:** S Mahmudul Hasan, Alabi Mehzabin Anisha, Rudaiba Adnin, Ishrat Jahan Eliza, Ishika Tarin, Sadia Afroz, A. B. M. Alim Al Islam
- **DOI:** [10.1145/3530190.3534804](https://doi.org/10.1145/3530190.3534804)
- **Supervised by:** [Dr. A. B. M. Alim Al Islam](#)
- **My contribution:** I contributed to this project by investigating prior studies in disease analysis. I have also contributed to the correlation analysis among socioeconomic factors and disease attributes.
- **Tools:** Python

Under Review

*Technological Forecasting and
Social Change Journal by Elsevier*

Investigation on Changes in COVID-19 Sentiments over Social Media

- In order to discover the patterns naturally entwined within the fluctuations of sentiment, we have performed an exploratory data analysis on the ideas and images gathered from Tweets.
- **Supervised by:** [Dr. A. B. M. Alim Al Islam](#)
- **Tools:** Python (Twint, VADER, HuggingFace, TextBlob).

*World Development Journal by
Elsevier*

Perspectives Dissection for COVID-19 Pandemic

- It is a user study to analyze the COVID-19 viewpoints of individuals in Bangladesh, India, and the United States, three of the major affected nations. We conduct a comparative analysis of the responses with the goal of identifying any potential sociocultural variances between the perspectives and experiences of the residents of those three nations.
- **Supervised by:** [Dr. A. B. M. Alim Al Islam](#) and [Dr. Sriram Chellappan](#)
- **Tools:** Python (NumPy, SciPy, Pandas, and Plotly).

WORK EXPERIENCE

IQVIA Asia Pacific

Dhaka, Bangladesh

Software Developer

June 2022 - July, 2023

- Working together with the Data Science team to develop and investigate various potential algorithms that might be used to report the market potential of the medical products of organizations around the world. The objective is to support the clients in adopting novel therapeutic approaches for drug production and commercializing them.
- Testing the existing potential algorithms running in the backend service by implementing unit test cases in Python.
- Processing data to make them prepare to present usage statistics of the users so that other teams can have insights for future implementations of the algorithms
- **Technical Skills:** Python, Git
- **Soft Skills:** Communication, Time management, Logical Thinking.

Free Pixel Games Ltd.

Dhaka, Bangladesh

Data Analyst Intern

December 2020 - January 2021

- Analyzing game data, including user, session, game level, and other activity data.
- **Technical Skills:** MySQL, Tableau
- **Soft Skills:** Communication, Logical Thinking.

UNIVERSITY LAB PROJECTS

Salt Lake County Food Inspection Visualization (SLCFVIS)

Data Visualization Project

- This project visualizes how good a restaurant in SLC is with respect to food code violations through table, map, and charts.
- **Tools:** Javascript, D3, HTML, Python.

White Blood Cell Classification

Deep Learning Project

- This project classifies four subtypes of white blood cells from the image data of blood cells.
- **Tools:** RestNet50, Keras.

SHIKHON - The Admission Helper

Software Development

- The purpose of the mobile application is to provide tutorials, notes, and solutions about a particular topic of a particular subject to the University Admission Candidates.
- **Tools:** Node JS, React Native JS, MongoDB.

Packet Sniffing

Network Security

- A program that can recover information transmitted into tcp packets under the assumption that the attacker is using the same LAN connection.
- **Tools:** C, Docker, Wireshark.

Online Shopping System

Database Project

- A database for a online shopping platform that stores information on customers, products, transactions, and inventories.
- **Tools:** PostgreSQL, PHP, HTML.

Dx Ball Game With Joystick

Micro-controller

- This is a classic game implemented using ATmega32. The difficult part was to incorporate the game logic with the hardware.
- **Tools:** ATmega32, Dot matrices, ICs.

Bubble Words Game

C Project

- A game where bubble-shaped alphabets begin to descend from the top. The goal is to create a meaningful word by selecting some letters through clicking into the bubbles to pop them.
- **Tools:** C, iGrapahics.

SKILLS

Programming	Python, C/C++, Java, Dart, JavaScript, R, PHP, HTML/CSS, MySQL, PostgreSQL, MongoDB.
Frameworks/Libraries	Pandas, NumPy, Scikit-learn, Keras, React JS, Node JS, Flutter.
Miscellaneous	Linux, Shell (Bash), Latex, Tableau, Microsoft Office, Git, Figma.
Soft Skills	Time Management, Teamwork, Problem-solving, Communication, Documentation, Engaging Presentation.

ACHIEVEMENTS

2021	Top 30 , UNDP Women's Digital Innovation Hackathon	Online
2018	Finalist , Pioneros 2.0	Dhaka, Bangladesh

LEADERSHIP EXPERIENCE

2020-21	President , BUET Dance Club	BUET
2017-22	Class Representative , Department of Computer Science and Engineering	BUET

REFERENCE(S)

Dr. A. B. M. Alim Al Islam

Professor, Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology (**BUET**)
Email: alim_razi@cse.buet.ac.bd
[\[Website\]](#), [\[Google Scholar\]](#), [\[Researchgate\]](#)