Ishrat Jahan Eliza

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RESEARCH INTEREST

Human-Computer Interaction — Social Computing — Human-Centered Data Science — Computational Social Science — Computational Linguistics

EDUCATION

Bangladesh University of Engineering and Technology
Dhaka-1000, Bangladesh

BSc in Computer Science and Engineering
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

Note: CORONOSIS: Corona Prognosis via a Global Lens to Enable Efficient Policy-making Both at Global and Local Levels [PDF]
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
- **Supervised by:** Dr. A. B. M. Alim Al Islam and 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 SIR. 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 [PDF]
COMPASS '22: ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies

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
- **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

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, HugginFace, TextBlob).

Manuscripts in Progress

eDakterBari - A Human-Centered Solution Enabling Online Medical Consultation for Resource-Constrained Communities in Bangladesh
- eDakterBari is a platform for providing health services to orphans, a community in Bangladesh with limited resources. The orphans in orphanages and the administrators of orphanages, and the respectable doctors are our primary users. We are concentrating on the service intermediation to provide healthcare through the suitable intermediaries for the orphans and developing interactive systems according to the user requirements.
- **Supervised by:** Dr. A. B. M. Alim Al Islam
- **Targeted venue:** ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW'23)
- **Tools:** Python, Flutter, AWS.

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 and Dr. Sriram Chellappan
- **Targeted venue:** ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS'23)
- **Tools:** Python (NumPy, SciPy, Pandas, and Plotly).

Projects in Progress

Prompt Engineering for Program Comprehension Tasks
- **Supervised by:** Mohammed Latif Siddiq (Graduate Assistant, University of Notre Dame)
- **Status:** Running

WORK EXPERIENCE

IQVIA
Dhaka, Bangladesh
Software Developer
June 2022 - Current
- Working together with the Data Science team to create 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.
- Resolving diverse challenges to fit the service to the needs of the user and to achieve modularity.
- **Technical Skills:** Python, Git
- **Soft Skills:** Communication, Time management, Logical Thinking.

Celloscope Ltd.
Dhaka, Bangladesh
Software Engineer
May 2022 - June 2022
- Developing mobile application for financial services.
- **Technical Skills:** Git, Dart, Flutter
- **Soft Skills:** Time Management, Communication, 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

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.

GRE Exam System

Java Project

- A web platform where users can take a timed multiple-choice exam and view the results.
- **Tools:** JavaFx, Scene-builder.

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, iGrpahics.

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
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Bangladesh University of Engineering and Technology (**BUET**)
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[Website], [Google Scholar], [Researchgate]