Ishrat Jahan Eliza

Salt Lake City, UT 84108

ishratjahan.eliza@utah.edu | GitHub | Linkedin | Website | Google Scholar

EDUCATION

PhD Research Assistant

Salt Lake City, UT 84112

Kahlert School of Computing & SCI Institute, University of Utah

August 2023 - Current

- **Lab:** Visualization Design Lab
  Supervisor: Dr. Alexander Lex
- **Course Highlights:** Human-Computer Interaction, Visualization for Data Science, Artificial Intelligence, Graduate Algorithm, Machine Learning

BSc in Computer Science and Engineering

Dhaka-1000, Bangladesh

Bangladesh University of Engineering and Technology

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

RESEARCH EXPERIENCE

Publications

AccessViz Workshop at IEEE VIS 2024

Accessible Text Generation for Complex Scientific Visualizations

- **Supervised by:** Dr. Alexander Lex
- **My contribution:** I conducted and designed a qualitative analysis of the UpSet plot: a complex scientific visualization to generate a framework of text description. I used Python to generate a human-readable text description for the UpSet plot. The Python package is published on PyPi.

IEEE VIS 2024 Posters

Enhancing Accessibility of Complex plots

- **Supervised by:** Dr. Alexander Lex
- **Tools:** Python

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
- **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. 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. I developed the interface for the mobile app in Flutter and 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
- **Supervised by:** Dr. A. B. M. Alim Al Islam and and Dr. Sriram Chellappan
- **My contribution:** I conducted statistical analysis in Python to identify relationships between various environmental, socioeconomic, and COVID-19 variables (death, affected). In collaboration with the other members of the data analysis team, I performed prediction analysis using the epidemiological model SIRD. Later, to make it accessible online, I deployed in AWS.

Revealing Influences of Socioeconomic Factors over Disease Outbreaks

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.

Awaiting Publication

High-Confidence Computing

A COVID Story: Corresponding Perspectives Dissection for COVID-19 Pandemic

- **Supervised by:** Dr. A. B. M. Alim Al Islam and 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.

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.

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

2024 **Cultural Secratory,** Bangladesh Student Association at University of Utah *UofU*
2020-21 **President,** BUET Dance Club *BUET*
2017-22 **Class Representative,** Department of Computer Science and Engineering *BUET*

REFERENCE(S)

Dr. Alexander Lex
Associate Professor, SCI Institute, School of Computing
University of Utah (**UofU**)
Email: alex@sci.utah.edu
[Website], [Google Scholar]