

## Education

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### Ph.D. in Computer Science

*University of Utah*

*Aug 2022 - Present*

- Researching data visualization at the [Scientific Computing and Imaging Institute \(SCI\)](#)
- **Advisor:** [Dr. Paul Rosen](#)
- **Key Courses:** Human-Computer Interaction, and Introduction to Statistics and Educational Psychology

*University of South Florida*

*Aug 2021 - Aug 2022*

- Researched data visualization at the [Graphics and Visualization Lab\(GVL@USF\)](#)
- **Advisor:** [Dr. Paul Rosen](#)
- **Key Courses:** Introduction to Theory of Algorithms, Principles of Computer Architecture, Operating Systems

*University of Arizona*

*Aug 2019 - Aug 2021*

- Worked on designing an interactive visualization tool that help people understand context-free grammar better at [The Humans, Data, and Computers Lab](#)
- **Key Courses:** Analysis of Algorithms, Advanced Data Visualization, Database Systems Implement, Neural Networks, Software Engineering

### MS in Computer Science

*University of South Florida*

*Aug 2022*

- Some of the graduate classes from the University of Arizona were counted towards my MS degree

### B.Sc. in Computer Science and Engineering

*Khulna University of Engineering and Technology*

*Mar 2013 - Mar 2017*

- **Undergrad Thesis:** A framework for implementing join operation between multiple MOLAPs
- **Key Courses:** Algorithm Analysis and Design, Data Structures and Algorithms, Object Oriented Programming, Operating Systems, Database Systems, Machine Learning, Artificial Intelligence, Discrete Mathematics, Mathematical Analysis, Numerical Methods, Software Engineering and Information Systems

## Research Projects

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**Using Behavioral Nudges in Peer Review** | *Javascript, Django, Flask*

*Nov 2022 - Present*

- Building a peer review dashboard leveraging the principles of nudge theory to enhance the quality of peer reviews.

**Annotations in Visualizations** | *Javascript, Flask, D3, Vega*

*Dec 2021 - Present*

- investigating how people are annotating visualizations when they are aiming to communicate information using them, and identifying common practices in annotations
- Studying how people attend to annotated visualizations
- Studying what visualization experts about the use of annotations and how they use it in real life

**Constraint-based Graphical Visualization of Context-free Grammars** | *Javascript, d3.js, cola.js*

*Dec 2019 - Dec 2020*

- This project was focused on developing an interactive visualization tool that visualizes context-free grammars using node-link diagrams in an interactive way to make people understand the grammars better.
- Designed an experiment and a survey that aimed for finding out the requirements of the potential users of the tool

**A Framework for Implementing Join Operation between Multiple MOLAPs** | *C++*

*Mar 2016 - Mar 2017*

- This project is focused on developing a novel framework for faster querying in multiple MOLAPs using snowflake schema.
- Our proposed model uses array index reference for creating a MOLAP by joining two-dimensional databases.

## Publications

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- **Md Dilshadur Rahman**, Ghulam Quadri Jilani, Paul Rosen, 2022, A Qualitative Evaluation and Taxonomy of Bar Chart Annotations. IEEE VIS 2022 Poster
- **Md Dilshadur Rahman**, Ghulam Quadri Jilani, Paul Rosen, 2022, A Qualitative Evaluation and Taxonomy of Student Annotations on Bar Charts. IEEE VIS 2022 Workshop on Visualization for Communication (VisComm)
- **Md Dilshadur Rahman**, MAA Hossain, KMA Hasan, 2019, A Framework for Implementing Join Operation between Multiple MOLAPs. 2019 IEEE International Conference on Electrical, Computer and Communication Engineering (ECCE)

## Professional Experience

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### University of Utah

Salt Lake City, Utah

#### Graduate Research Assistant at Scientific Computing and Imaging Institute

Aug 2022 - Present

- Building a comprehensive design space for annotations in visualizations
- Building a peer review dashboard using nudge theory to improve the quality of peer reviews

#### Teaching Mentee at Computer Science

Jan 2023 - May 2023

- Worked with Dr. Paul Rosen in the Graduate Computational Geometry class as part of the Computer Science Teaching Menteeship program

### University of South Florida

Tampa, Florida

#### Graduate Research Assistant at Computer Science and Engineering

May 2022 - Present

- Studied how people annotate visualizations when they want other people to understand the data conveyed by the visualizations.

#### Graduate Teaching Assistant at Computer Science and Engineering

Aug 2021 - May 2022

- **Courses:** Interactive Data Visualization, IT Computer Networking Lab, IT Security Systems, Computer Architecture Lab

### University of Arizona

Tucson, Arizona

#### Graduate Teaching Assistant at Computer Science

Jan 2021 - Aug 2021

- **Courses:** Data Visualization, Introduction to Computer Programming II

#### Graduate Instructor at Computer Science

Jan 2021 - Aug 2021

- **Courses:** Introduction to Computer Programming II

#### Graduate Research Assistant at Computer Science

Aug 2019 - Dec 2020

- Work on developing an interactive visualization tool that visualizes the context-free grammars using node-link diagrams to help people understand them better.
- Designed a survey and interviewed potential users to understand the requirements of the tool and implemented the initial design

### Daffodil International University

Dhaka, Bangladesh

#### Lecturer at Computer Science and Engineering

Sept 2017 - Aug 2019

- **Courses Taught:** Discrete Mathematics, Data Structures, Programming and Problem Solving, System Analysis and Design, Web Engineering, Operating Systems

### University of Information Technology and Sciences

Dhaka, Bangladesh

#### Lecturer at Computer Science and Engineering

May 2017 - Sep 2017

- **Courses Taught:** Database Management System, Computer Architecture, Web Engineering

## Volunteering Experience

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- Student Volunteer at IEEE International Conference of Electrical, Information, and Communication Technology in 2013 ([IEEE EICT 2013](#)) at Khulna University of Engineering and Technology, Khulna, Bangladesh
- Volunteered at Prospective Computer Science Graduate Student Visit event at the University of Utah, Salt Lake City, Utah, USA in 2023
- Volunteered at [Hack Arizona 2020](#), Tucson, Arizona, USA
- Volunteered at the Prospective Computer Science Graduate Student Visit event at the University of Arizona, Tucson, Arizona, USA in 2020
- Student Coordinator at National High School Programming Contest (NHSPC) in 2014, 2015, and 2016 at Khulna University of Engineering and Technology (KUET), Khulna, Bangladesh. **I led a team of volunteers in NHSPC 2015 and NHSPC 2016**
- Served as a member of the organising committee at the Intra Department Idea Contest 2016 at Computer Science and Engineering at Khulna University of Engineering and Technology (KUET), Khulna, Bangladesh
- Served as a member of the organising committee at the Intra Department Programming Contest in 2015 and 2016 at Computer Science and Engineering at Khulna University of Engineering and Technology (KUET), Khulna, Bangladesh

## Technical Skills

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**Programming Languages:** Javascript, C++, Python, C, Java, PHP

**Web Programming:** Flask, Django, HTML, CSS

**Database:** SQL, MySQL, Oracle Database

**Libraries:** d3.js, cola.js, dagre.js, dot

**Tools:** Tensorflow, Keras, Tableau, Latex, Linux, Shell Scripting

**Other skills:** Data Visualization, Machine Learning, Deep Learning, Data Structures and Algorithms, Data Science