

Md Dilshadur Rahman

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Research Interests

- Data Visualization
- Human-Computer Interaction
- Human-AI Interaction and Collaboration in Data Visualization
- Computing Education

Education

PHD IN COMPUTER SCIENCE

Aug 2022 – Present

*Kahlert School of Computing & Scientific Computing and Imaging Institute
University of Utah*

Advisor: [Paul Rosen](#)

MS IN COMPUTER SCIENCE

Aug 2022

*Department of Computer Science and Engineering
University of South Florida*

Advisor: [Paul Rosen](#)

BSC IN COMPUTER SCIENCE AND ENGINEERING

Mar 2017

*Department of Computer Science and Engineering
Khulna University of Engineering and Technology (KUET)*

Publications

JOURNALS

- **Md Dilshadur Rahman**, Devin Lange, Ghulam Jilani Quadri, Paul Rosen. *Designing Annotations in Visualization: Considerations from Visualization Practitioners and Educators*.
To appear in Computer Graphics Forum, Accepted in Eurographics Conference on Visualization (EuroVis), 2026.
[🌐 interactive website](#)
- Alon Friedman, **Md Dilshadur Rahman**, Ly Dinh, Paul Rosen. *Designing for Engagement: A Comparison of Canvas and a Visual Peer Review Dashboard*.
ACM Transactions on Computing Education, 2026.
[🔗 10.1145/3800962](#)
- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Bhavana Doppalapudi, Danielle Szafir, Paul Rosen. *A Qualitative Analysis of Common Practices in Annotations: A Taxonomy and Design Space*.
IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG), 2025 (Proc. of IEEE Visualization and Visual Analytics Conference (IEEE VIS 2024)). [22% acceptance rate]
[🔗 10.1109/TVCG.2024.3456359](#)

[🌐 interactive website](#)

- **Md Dilshadur Rahman**, Bhavana Doppalapudi, Ghulam Jilani Quadri, Paul Rosen. *A Survey on Annotations in Information Visualization: Empirical Studies, Applications, and Challenges*.

IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG), 2025.

[🔗 10.1109/TVCG.2025.3600957](#)

[🌐 interactive website](#)

- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Danielle Szafir, Paul Rosen. *Exploring Annotation Taxonomy in Grouped Bar Charts: A Qualitative Classroom Study*.

Information Visualization, 2024.

[🔗 10.1177/14738716241270247](#)

[🌐 interactive website](#)

CONFERENCES AND WORKSHOPS

- **Md Dilshadur Rahman**^{*}, Md Rahat-uz-Zaman^{*}, Andrew McNutt, Paul Rosen. *AnnoGram: An Annotative Extension of the Grammar of Graphics*.

IEEE Visualization and Visual Analytics (IEEE VIS), 2025.

[🔗 10.48550/arXiv.2507.04236](#)

[🌐 interactive website](#)

^{*} Co-first authors.

- Bhavana Doppalapudi, **Md Dilshadur Rahman**, Paul Rosen. *Seeing is Believing: The Role of Scatterplots in Recommender System Trust and Decision-Making*.

International Symposium on Visual Computing (ISVC), 2024.

[🔗 10.1007/978-3-031-77392-1_32](#)

- Feng Lin, Arran Zeyu Wang, **Md Dilshadur Rahman**, Danielle Szafir, Ghulam Jilani Quadri. *Striking the Right Balance: Systematic Assessment of Evaluation Method Distribution Across Contribution Types*.

IEEE evaluation and BEyond - methodological approaches for Visualization (co-located with IEEE VIS), 2024.

[🔗 10.1109/BELIV64461.2024.00020](#)

- Fateme Rajabiyazdi, Mandy Keck, Christina Stoiber, Jonathan Roberts, Hari Subramonyam, Lily Ge, Magdalena Boucher, Benjamin Bach, Lonni Besancon, Mathis Brossier, Anders Ynnerman, Konrad Schonborn, Alon Friedman, Bo Pei, Ly Dinh, Kevin Hawley, Julia Woodward, Paul Rosen, **Md Dilshadur Rahman**, Yan Chen. *EduVis: 2nd IEEE VIS Workshop on Visualization Education, Literacy, and Activities*.

IEEE VIS, 2024.

[📄 EduVis Workshop 2024](#)

- Alon Friedman, Kevin Hawley, Paul Rosen, **Md Dilshadur Rahman**. *Enhancing Student Feedback Using Predictive Models in Visual Literacy Courses*.

IEEE Engineering Education Conference (IEEE EDUCON), 2024.

[🔗 10.1109/EDUCON60312.2024.10578647](#)

- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Paul Rosen. *Exploring Annotation Strategies in Professional Visualizations: Insights from Prominent US News Portals*.

IEEE VIS Workshop on Visualization for Communication (VisComm), 2023.

[10.31219/osf.io/fd8zj](https://doi.org/10.31219/osf.io/fd8zj)

[VisComm Workshop 2023](#)

[interactive website](#)

- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Paul Rosen. *A Qualitative Evaluation and Taxonomy of Student Annotations on Bar Charts.*

IEEE VIS Workshop on Visualization for Communication (VisComm), 2022.

[10.31219/osf.io/e5vfy](https://doi.org/10.31219/osf.io/e5vfy)

[VisComm Workshop 2022](#)

- **Md Dilshadur Rahman**, MAA Hossain, KMA Hasan. *A Framework for Implementing Join Operation Between Multiple MOLAPs.*

IEEE International Conference on Electrical, Computer and Communication Engineering (IEEE ECCE), 2019.

[10.1109/ECACE.2019.8679373](https://doi.org/10.1109/ECACE.2019.8679373)

POSTERS

- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Paul Rosen. *How Do Professionals Use Annotations in Visualizations?*

IEEE VIS Poster Proceedings, 2024.

[IEEE VIS 2024 poster page](#)

[interactive website](#)

- Bhavana Doppalapudi, **Md Dilshadur Rahman**, Paul Rosen. *Seeing is Believing: The Role Recommender System Accuracy Plays on Trust in Scatterplots.*

IEEE VIS Poster Proceedings, 2024.

[IEEE VIS 2024 poster page](#)

- **Md Dilshadur Rahman**, Ghulam Jilani Quadri, Paul Rosen. *A Qualitative Evaluation and Taxonomy of Bar Chart Annotations.*

IEEE VIS Poster Proceedings, 2022.

[IEEE VIS 2022 poster page](#)

[interactive website](#)

UNDER REVIEW AND PREPARATION

- Alon Friedman, **Md Dilshadur Rahman**, Ly Dinh, Julia Woodward, Bo Pei, Paul Rosen. *Interfaces for Judgment: Scaffolding Evaluative Reasoning in Interaction.*

Under Review in ACM Transactions on Computer-Human Interaction, 2026.

- Md Rahat-uz-Zaman^{*}, **Md Dilshadur Rahman**^{*}, Andrew McNutt, Paul Rosen. *AnnoBench: A Benchmark for Visualization Annotation Generation.*

Under Review, 2026.

[interactive website](#)

^{*} Co-first authors.

- S M Raihanul Alam, **Md Dilshadur Rahman**, Naimul Hoque. *FocalLens: Visualizing Narratives through*

Focalization.

Under Review, 2026.

[🌐 interactive website](#)

- Alon Friedman, **Md Dilshadur Rahman**, Paul Rosen. *Shaping Evaluative Analysis Through Data Visualization Design: A Study of Visual Nudges.*
In preparation, 2026.
- Bhavana Doppalapudi, **Md Dilshadur Rahman**, Paul Rosen. *Influence of Visualizing Class Balance Information on Recommendations' Trust and Decision-Making.*
In preparation, 2026.

Teaching Experience

DIRECT CLASSROOM TEACHING

GRADUATE INSTRUCTOR

Aug 2021 – May 2022

University of South Florida, Computer Science & Engineering

C O U R S E S : IT Computer Networking Lab (Fall 2021)
Computer Architecture Lab (Spring 2022)

INSTRUCTOR OF RECORD

May 2020 – Aug 2020

University of Arizona, Computer Science

C O U R S E : Introduction to Computer Programming II (Summer 2020)

LECTURER

Sept 2017 – Aug 2019

Daffodil International University, Computer Science & Engineering

C O U R S E S : Discrete Mathematics (Spring 2019, Fall 2018, Spring 2018)
Data Structures (Spring 2019, Summer 2019, Fall 2018, Summer 2018)
Programming and Problem Solving (Fall 2018, Fall 2017)
Systems Analysis and Design (Fall 2018, Fall 2017)
Operating Systems (Spring 2018)
Data Communications (Summer 2018, Spring 2018, Fall 2017)

LECTURER

May 2017 – Sept 2017

University of Information Technology and Sciences, Computer Science & Engineering

C O U R S E S : Microprocessors (Summer 2017)
Computer Architecture (Summer 2017)
Database System Management (Summer 2017)

TEACHING SUPPORT ROLES

GRADUATE TEACHING ASSISTANT

Aug 2024 – Dec 2024

University of Utah, Kahlert School of Computing

C O U R S E : Visualization for Data Science (Fall 2024)

TEACHING MENTEE

Jan 2023 – May 2023

University of Utah, Kahlert School of Computing

COURSE: Computational Geometry (Spring 2023)

GRADUATE TEACHING ASSISTANT

Aug 2021 – May 2022

University of South Florida, Computer Science & Engineering

COURSES: Interactive Data Visualization (Spring 2022)
IT Security Systems (Fall 2021)

GRADUATE TEACHING ASSISTANT

Jan 2021 – Aug 2021

University of Arizona, Computer Science

COURSES: Data Visualization (Spring 2021)
Introduction to Computer Programming II (Summer 2021)

Honors & Awards

- Kahlert Impact Prize for research and academic service impact, Kahlert School of Computing, University of Utah 2026
- Special recognition for outstanding reviews (Posters), ACM CHI 2026
- Special recognition for outstanding reviews (late breaking works), ACM CHI 2025
- Doctoral Colloquium Fellowship, IEEE VIS 2023
- ~\$4,000 in NSF travel funding for Doctoral Colloquium at IEEE VIS 2023
- ~\$500 in travel award from Associated Students of the University of Utah for IEEE VIS 2022
- ~\$1,500 in NSF travel funding for Topological Data Visualization workshop at the University of Iowa 2021
- University Dean's Award, Khulna University of Engineering and Technology 2016–2017
- University Dean's Award, Khulna University of Engineering and Technology 2015–2016

Academic Service and Leadership

CONFERENCE & WORKSHOP ORGANIZATIONS

- TECHNICAL PROGRAM COMMITTEE MEMBER, IEEE Global Engineering Education Conference (IEEE EDUCON) 2026, 2025
- PROGRAM COMMITTEE MEMBER (SHORT PAPERS), IEEE Visualization and Visual Analytics (IEEE VIS) 2025
- CO-ORGANIZER, IEEE VIS Workshop on Visualization for Communication (VisComm), IEEE VIS 2025
- COMMITTEE MEMBER, Talk Submissions, Outlier Conference 2025
- COMMITTEE MEMBER (JUDGE), Visual Data Storytelling Contest, IEEE Pacific Visualization Conference (PacificVis) 2025
- CO-ORGANIZER, IEEE VIS Workshop on Visualization Education, Literacy, and Activities (EduVis) 2024
- STUDENT VOLUNTEER, IEEE VIS 2024
- STUDENT VOLUNTEER, International Conference of Electrical, Information, and Communication Technology, KUET 2013

PEER-REVIEWING

- ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI) 2026, 2025
- ACM Conference on Intelligent User Interfaces (ACM IUI) (Posters) 2026
- IEEE Visualization and Visual Analytics Conference (IEEE VIS) 2025
- ACM Designing Interactive Systems (ACM DIS) 2025
- Eurographics Conference on Visualization (IEEE/EuroGraphics EuroVis) 2025
- International Journal of Human-Computer Interaction (IJHCI) 2025
- IEEE Pacific Visualization Symposium (IEEE PacificVis) 2025
- ACM Conversational User Interfaces (ACM CUI) 2025
- IEEE Global Engineering Education Conference (IEEE EDUCON) 2026, 2025
- Australian Conference on Human-Computer Interaction (OzCHI) 2025, 2024
- IEEE Transactions on Visualization and Computer Graphics (IEEE TVCG) 2024
- ACM Conference on Computer Supported Cooperative Work and Social Computing (ACM CSCW) 2024
- IEEE VIS Workshop on Visualization Education, Literacy, and Activities (IEEE EduVis) 2024
- International Conference on Electrical, Computer and Communication Engineering (IEEE ECCE) 2024

OTHER VOLUNTEERING

- STUDENT VOLUNTEER, Prospective CS Graduate Student Visit, University of Utah 2024, 2023
- STUDENT VOLUNTEER, Hack Arizona 2020
- STUDENT VOLUNTEER, Prospective CS Graduate Student Visit, University of Arizona 2020
- STUDENT COORDINATOR, National High School Programming Contest — led the student volunteer team in 2015 and 2016 2016, 2015, 2014
- ORGANIZING COMMITTEE MEMBER, Intra-Department Idea Contest, KUET 2016
- ORGANIZING COMMITTEE MEMBER, Intra-Department Programming Contest, KUET 2016, 2015

Talks

- *Design Space and Tooling for Annotations in Visualizations* 2026
Invited Talk, Oak Ridge National Laboratory, Tennessee, USA
- *A Qualitative Analysis of Common Practices in Annotations: A Taxonomy and Design Space* 2024
Conference Talk, IEEE VIS, Virtual
- *A Qualitative Analysis of Common Practices in Annotations: A Taxonomy and Design Space* 2024
Seminar Talk, Visualization Seminar, SCI Institute, University of Utah, USA
- *Understanding the Design Space of Annotations in Visualizations* 2023
Invited Talk, Doctoral Colloquium, IEEE VIS, Melbourne, Australia

- *How Do People Comprehend Annotations in Visualizations?* 2023
Conference Talk, Vis X Vision Workshop, IEEE VIS, Melbourne, Australia
- *Exploring Annotation Strategies in Professional Visualizations: Insights from Prominent US News Portals* 2023
Conference Talk, Visualization for Communication Workshop (VisComm), IEEE VIS, Melbourne, Australia
- *A Qualitative Evaluation and Taxonomy of Student Annotations on Bar Charts* 2022
Conference Talk, Visualization for Communication Workshop (VisComm), IEEE VIS, Oklahoma City, USA

References

Prof. Paul Rosen

Associate Professor, Kahlert School of Computing
Scientific Computing and Imaging (SCI) Institute
University of Utah
EMAIL: paul.rosen@utah.edu

Prof. Christopher R. Johnson

Distinguished Professor, Kahlert School of Computing
Founding Director, Scientific Computing and Imaging (SCI) Institute
University of Utah
EMAIL: crj@sci.utah.edu

Prof. Leilani Battle

Robert E. Dinning Endowed Associate Professor
Paul G. Allen School of Computer Science & Engineering
University of Washington
EMAIL: leibatt@cs.washington.edu

Prof. Ghulam Jilani Quadri

Assistant Professor
School of Computer Science
University of Oklahoma
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Prof. Andrew McNutt

Assistant Professor
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