Ghulam Jilani Quadri

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Ghulam Jilani Quadri is a tenure-track Assistant Professor in the School of Computer Science at the Gallogly College of Engineering, University of Oklahoma. Previously, he was a Postdoctoral Research Associate and CRA/CCC/NSF Computing Innovation Fellow in the Department of Computer Science at the University of North Carolina-Chapel Hill, working with Dr. Danielle Albers Szafir. Quadri earned his Ph.D. in Computer Science & Engineering from the University of South Florida in 2021, under the advisement of Dr. Paul Rosen. He holds an M.S. in Computer Science from the University of South Florida and a B.E. in Computer Engineering from the University of Mumbai.

Quadri develops visualization systems and techniques, with optimized design choices, to explore and analyze large, complex datasets across domains ranging from health and energy to the humanities. His work focuses on increasing the scalability, clarity, and comprehensibility of information visualization by quantifying perception and cognition for design. Quadri's research lies at the intersection of Information Visualization, HCI, ML Models, and perception & cognition. His primary goal is to create a perceptual and human-centered framework to optimize visualization design, improving decision-making quality and confidence while providing objective guidance for designers.

His research contributions have received significant support, funding, and recognition, including honorable mentions at the VAST Challenge 2017, an NSF Computing Innovation Fellowship in 2021, the IEEE VGTC Best Dissertation Award in 2022, honorable mentions for the Best Paper Award at IEEE VIS 2023, IEEE VIS 2025, and ACM CHI 2026, honorable mentions for the Best Poster Award at IEEE VIS 2024, honorable mentions for IEEE VAST Challenge, and Best Short Paper award at EuroVis 2024.

Educational Background

2017–2021 Ph.D. in Computer Science and Engineering, University of South Florida
Dissertation: "Constructing Framework for Task-Optimized Visualization"
Dissertation Advisor: Prof. Paul Rosen
Dissertation Committee: Profs. Shaun Canavan, John Licato, Mahshid Naeini, & Brenton Wiernik.
🎗 **2022 IEEE VGTC Best Dissertation Award**
***2021 Dissertation Completion Fellowship ***

2015–2017 Master of Science in Computer Sciences, University of South Florida

2009–2012 Bachelor of Engineering in Computer Engineering, University of Mumbai

Employment History

2024–Present Assistant Professor, Computer Science, University of Oklahoma
Affiliate Faculty, *Data Science and Analytics Institute* (DSAI), University of Oklahoma
Affiliate Faculty, *Data Institute for Societal Challenges* (DISC), University of Oklahoma
Affiliate Faculty, *Institute of Community & Society Transformation* (ICAST), University of Oklahoma
Affiliate Faculty, *Institute for Public Policy Research & Analysis* (IPPRA), University of Oklahoma

2022–2024 Postdoctoral Fellow, Computer Science, University of North Carolina at Chapel Hill
CRA/CCC NSF-funded *Computing Innovation Fellows* (CIFellows)
Mentor: Dr. Danielle Albers Szafir

2017–2021 Research Assistant, Computer Science & Engineering, University of South Florida
Graphics and Visualization Lab
Advisor: Dr. Paul Rosen

2017 NSF Innovation Corps Cohort, University of South Florida
2016 Software Development Intern, USF Innovation Incubator Startup
2013–2015 System Engineer, Infosys Limited, Pune, India
2012–2013 Lecturer, MHSS Polytechnic, Mumbai, India
2011 Undergraduate Research Intern, Tata Institute of Fundamental Research, Mumbai, India

Honors & Awards

2026 Best Paper Honorable Mention Award, *ACM CHI for "Redundant is Not Redundant: Automating Efficient Categorical Palettes Design Unifying Color & Shape Encodings with CatPAW"* **[C06]**
Top 5% Submission
2026 Special Recognition for Outstanding Reviews, *ACM CHI 2026*
2025 OU VPRP Office Research and Creativity Award, *University of Oklahoma*
2025 Best Paper Honorable Mention Award, *IEEE VIS for "Characterizing Visualization Perception with Psychological Phenomena: Uncovering the Role of Subitizing in Data Visualization"* **[J13]**
Top 5% Submission
2025 Seed Funding Award, *DISC for "Leveraging Advanced Technologies for Improving Performance Education"*
2025 Seed Funding Award, *ICAST for "Leveraging Large Language Models to Enhance Art Education"*

2024 Best Poster Honorable Mention Award, *IEEE VIS for "Visual Stenography: Feature Recreation and Preservation in Sketches of Line Charts"*
Top 5% Submission
2024 Special Recognition for Outstanding Reviews, *ACM CHI 2024*
2024 Brain Korea 21 Global Visiting Fellow, Host: *Seoul National University*
2024 Best Short Paper Award, *IEEE/Eurographics EuroVis for "Revisiting Categorical Color Perception in Scatterplots: Sequential, Diverging, and Categorical Palettes"* **[C03]**
Top 1% Submission
2023 Best Paper Award Honorable Mention, *IEEE VIS for "CLAMS: Cluster Ambiguity Measure for Estimating Perceptual Variability in Visual Clustering"* **[J05]**
Top 5% Submission
2023 Special Recognition for Outstanding Reviews, *IEEE VIS 2023*
2022 IEEE VGTC Best Doctoral Dissertation Award, *IEEE VGTC Visualization & Graphics Pioneers - "Constructing Frameworks for Task-Optimized Visualizations"*
2021 Computing Innovation Fellow, *CRA/CCC NSF Computing Innovation Fellows Program*
2021 Dissertation Completion Fellowship, *University of South Florida*
2020 Tableau Tapia Scholar
2020 Indeevar and Srinath Memorial Scholarship, *College of Engineering, University of South Florida*
2019 Spirit of Innovation Award, *College of Engineering, University of South Florida*
2017 VAST Challenge Honorable Mention, *IEEE Conference on Visual Analytics Science and Technology (VAST)* **[A03]**

Student Honors & Awards

2026 UReCA Summer Fellowship Award, *""LineSnap 2.0: How Text Embedded Visualization influence Shape Pattern Identification?"- Jasmine Lim*

2025 UReCA Summer Fellowship Award, *"LineSnap 1.0t: Exploring the Impact Text and Intended Message on Pattern Identification"- Jasmine Lim*

Scholarly Works

Note that $^{(s)}$ indicates student co-authors at the time of publication for works published as a faculty member and $^{(a)}$ indicates direct advisees. Acceptance rates are listed where available. Conferences are considered a primary publication venue for computer science (see Patterson et al., 1999, for details). Papers appearing in the IEEE VIS Conference are published as an issue of *IEEE Transactions on Visualization and Computer Graphics*, and papers in the Eurographics Conference on Visualization (EuroVis) are published as an issue of *Computer Graphics Forum*.

Refereed Journal Publications

J-14. S. Jung, J. Rhee, S. Doh, H. Jeon, **Ghulam Jilani Quadri**, & J. Seo. "Seeing graphs like humans: Benchmarking computational measures and MLLMs for similarity assessment." *Information Visualization Journal*, 24(1): 79-94, 2026.
> Special Issue: Proceedings of IEEE PacficVis 2025.

J-13. A. Z. wang, **Ghulam Jilani Quadri**, M. Zhu, C. Tseng & D. A. Szafir . "Characterizing Visualization Perception with Psychological Phenomena: Uncovering the Role of Subitizing in Data Visualization" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 32(1): 1131 - 1141, 2026.
> Special Issue: Proceedings of IEEE VIS 2025. Acceptance Rate: 24.7%
> Best Paper Honorable Mention Award (Top 5% of submissions)

J-12. R.A. Proma, M. Corell, **Ghulam Jilani Quadri**, & P. Rosen . "Visual Stenography: Feature Recreation and Preservation in Sketches of Noisy Line Charts" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 32(2): 1879 - 1894, 2026.
> Acceptance Rate: 25%

J-11. H. Jeon, M. Aupetit, S. Lee, K. Ko, Y. Kim **Ghulam Jilani Quadri**, & J. Seo . "Distortion-Aware Brushing for Reliable Cluster Analysis in Multidimensional Projections" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 32(2): 2165 - 2182, 2026.
> Acceptance Rate: 25%

J-10. M. D. Rahman, B. Doppalapudi, **Ghulam Jilani Quadri**, & P. Rosen . "A Survey on Annotations in Information Visualization: Empirical Studies, Applications and Challenges" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 31(12): 10439 - 10456, 2025.
> Acceptance Rate: 25%

J-09. **Ghulam Jilani Quadri** . "Toward Constructing Frameworks for Task- and Design-Optimized Visualizations" *IEEE Computer Graphics and Applications (CG&A)*, 44(5): 104–113, 2024.

J-08. C. Tseng, A. Z. Wang, **Ghulam Jilani Quadri**, & D. Albers Szafir . "Shape It Up: An Empirically Grounded Approach for Designing Shape Palettes" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 31(1): 349-359, 2024.
> Special Issue: Proceedings of IEEE VIS 2024. Acceptance Rate: 25%

J-07. M. D. Rahman, **Ghulam Jilani Quadri**, B. Doppalapudi, D. Albers Szafir, & P. Rosen . "A Qualitative Analysis of Common Practices in Annotations: A Taxonomy and Design Space" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 31(1): 360-370, 2024.
> Special Issue: Proceedings of IEEE VIS 2024. Acceptance Rate: 25%

J-06. M. D. Rahman, **Ghulam Jilani Quadri**, D. Albers Szafir, & P. Rosen. "Exploring Annotation Taxonomy in Grouped Bar Charts: A Qualitative Classroom Study." *Information Visualization Journal*, 24(1): 79-94, 2024.

J-05. H. Jeon*, G. Quadri*, H. Lee, P. Rosen, **D. Albers Szafir**, & J. Seo. "CLAMS: Cluster Ambiguity Measure for Estimating Perceptual Variability in Visual Clustering." *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 30(1): 770–780, 2023.
*> * denotes equal contribution*
> Special Issue: Proceedings of IEEE VIS 2023. Acceptance Rate: 24.7%
> Best Paper Honorable Mention Award (Top 5% of submissions) 🎖

J-04. **Ghulam Jilani Quadri**, J. Adorno, B. Wiernik & P. Rosen . 'Automatic Scatterplot Design Optimization for Clustering Identification" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 29(10): 4312–4327, 2023.

J-03. **Ghulam Jilani Quadri** & P. Rosen . 'A Survey of Perception-Based Visualization Studies by Task" *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 28(2): 5026–5048, 2022.

J-02. P. Rosen & **Ghulam Jilani Quadri** . 'LineSmooth: An Analytical Framework for Evaluating the Effectiveness of Smoothing Techniques on Line Charts." *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 27(2): 4312–4327, 2021.
> Special Issue: Proceedings of IEEE VIS 2020. Acceptance Rate: 25%

J-01. **Ghulam Jilani Quadri** & P. Rosen. "Modeling the Influence of Visual Density on Cluster Perception in Scatterplots Using Topology." *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 27(2): 1829–1839, 2021.
> Special Issue: Proceedings of IEEE VIS 2020.
Acceptance Rate: 25%

Peer-Reviewed Archival Conference Papers

C-10. M. D. Rahman, D. Lange, **Ghulam Jilani Quadri**, & P. Rosen. "Designing Annotations in Visualization: Considerations from Visualization Practitioners and Educators." In the proceedings of *IEEE EuroVis, 2026*. Nottingham, UK.
> Acceptance Rate: 24%

C-09. H. Jeon[(a)], H. Lee, M. Shin, T. Pandey[(as)], J. Kim, S. Seon, D. Jeong, S. Ko, & **Ghulam Jilani Quadri**. "How Do LLMs See Charts? A Comparative Study on High-Level Visualization Comprehension in Humans and LLMs." In the proceedings of *IEEE EuroVis, 2026*. Nottingham, UK.
> Acceptance Rate: 24%
> First paper as a mentor and advisor

C-08. D. Hogue[(as)], D. Shane Elliott[(as)], & **Ghulam Jilani Quadri**. "Building Operator Trust Through Mixed-Initiative Camouflage Analysis for Surveillance." In the proceedings of *IEEE/AIAA 42nd Digital Avionics Systems Conference (DASC), 2026*. Orlando, USA.

C-07. D. Shane Elliott[(as)], D. Hogue[(as)], & **Ghulam Jilani Quadri**. "A Visual Analytics Framework for Post-Flight Drone Anomaly Investigation." In the proceedings of *IEEE/AIAA 42nd Digital Avionics Systems Conference (DASC), 2026*. Orlando, USA.

C-06. C. Tseng, A. Z. Wang, **Ghulam Jilani Quadri**, & D. Albers Szafir. "Redundant is Not Redundant: Automating Efficient Categorical Palettes Design Unifying Color & Shape Encodings with CatPAW." In the proceedings of *CHI Conference on Human Factors in Computing Systems, 2026*. Barcelona, Spain.
> Acceptance Rate: 24%
> Best Paper Honorable Mention Award (Top 5% of submissions)

C-05. R. A. Proma, **Ghulam Jilani Quadri**, & P. Rosen. "Evaluating Line Chart Strategies for Mitigating Density of Temporal Data: The Impact on Trend, Prediction, and Decision-Making." In the proceedings of *2oth International Symposium on Visual Computing (ISVC) 2025*. Las Vegas, USA.
> Acceptance Rate: 30%

C-04. K. Wu, **Ghulam Jilani Quadri**, A. Z. Wang, D. Osei-Tutu, E. Patterson, V. Koushik, & D. Albers Szafir. "Our Stories, Our Data: Co-Designing Visualizations With People With Intellectual and Developmental Disabilities." In the proceedings of *CM SIGACCESS Conference on Computers and Accessibility (ASSETS) 2024*. St. John's, Newfoundland and Labrador, Canada.
> Acceptance Rate: 30%

C-03. C. Tseng, **Ghulam Jilani Quadri**, A. Z. Wang, & D. Albers Szafir. "Revisiting Categorical Color Perception in Scatterplots: Sequential, Diverging, and Categorical Palettes." In the proceedings of *IEEE EuroVis 2024*. Odense, Denmark.
> Acceptance Rate: 39%
> Best Short Paper Award (Top 1% of submissions)

C-02. **Ghulam Jilani Quadri**, A. Z. Wang, Z. Wang, J. Adorno, P. Rosen, & D. Albers Szafir. "Do You See What I See? Eliciting High-Level Visualization Comprehension." In the *Proceedings of the 2024 Conference on Human Factors in Computing Systems (CHI 2024)*, 2024. Honolulu, HI.
> Acceptance Rate: 26.3%

C-01. C. Tseng, **Ghulam Jilani Quadri**, A. Z. Wang, & D. Albers Szafir. "Measuring Categorical Perception in Color-Coded Scatterplots." In the *Proceedings of the 2023 Conference on Human Factors in Computing Systems (CHI 2023)*, 2023. Hamburg, Germany.
> Acceptance Rate: 28.4%

Peer-Reviewed Workshop Papers

W-06. M. Meyer, **Ghulam Jilani Quadri**, & P. Rosen. "Navigating the Maze of Guidelines to Unify Visualization Design Recommendations (Dagstuhl Seminar 25232)" *Report from Dagstuhl Seminar 25232, 2025*.

W-05. S. Doh, H. Jeon, S. Shin, **Ghulam Jilani Quadri**, N. W. Kim & J. Seo. "Understanding bias in perceiving dimensionality reduction projections" *In Proceedings of VIS'25: IEEE Conference on Visualization. Workshop on Visualization on Communication (VisComm), 2025*.

W-04. F. Lin[(as)], A. Zeyu Wang, D. Rahman, D. Albers Szafir, & **Ghulam Jilani Quadri**. "Striking the Right Balance: Systematic Assessment of Evaluation Method Distribution Across Contribution Types." *In the Proceedings of Tenth Workshop on BELIV at IEEE VIS*, 2024.

W-03. D. Rahman, **Ghulam Jilani Quadri**, & P. Rosen. "Exploring Annotation Strategies in Professional Visualizations: Insights from Prominent US News Portals." *In Proceedings of VIS'23: IEEE Conference on Visualization. Workshop on Visualization on Communication (VisComm), 2023*.

W-02. D. Rahman, **Ghulam Jilani Quadri**, & P. Rosen. "A Qualitative Evaluation and Taxonomy of Bar Chart Annotations." *In Proceedings of VIS'22: IEEE Conference on Visualization. Workshop on Visualization on Communication (VisComm), 2022*.

W-01. **Ghulam Jilani Quadri**, & P. Rosen. "You Can't Publish Replication Studies (and How to Anyways)." *In Proceedings of VIS'19: IEEE Conference on Visualization. Workshop on Vis X Vision, 2019*.

Peer-Reviewed Abstracts

A-08. T. Pandey[(as)],& **Ghulam Jilani Quadri**. "Towards Exploring and Mapping Individual Differences to Hierarchical Levels of Visualization Comprehension" In the *Poster Abstracts of Vision Science Society 2026.*

A-07. F, Naenian[(a)], A. Zeyu Wang, D. Albers Szafir, & **Ghulam Jilani Quadri**. "Exploring the Hierarchical Nature of Visual Comprehension Through the Lens of Individual Differences." In the *Poster Abstracts of IEEE VIS. 2024.*

A-06. D. Rahman, **Ghulam Jilani Quadri**, & P. Rosen. "How Do Professionals Use Annotations in Visualizations?" In the *Poster Abstracts of IEEE VIS. 2024.*

A-05. R. Proma, M. Correll **Ghulam Jilani Quadri**, & P. Rosen. "Visual Stenography: Feature Recreation and Preservation in Sketches of Line Charts." In the *Poster Abstracts of IEEE VIS. 2024.*
> Honorable Mentions for Best Poster Award

A-04. **Ghulam Jilani Quadri**, & D. Albers Sxzafir. "Eliciting High-Level Visual Comprehension: A Qualitative Study." In the *Poster Abstracts of IEEE VIS. 2022.*

A-03. S. Malla, A. Tuladhar, **Ghulam Jilani Quadri**, & P. Rosen. "Multi-spectral Satellite Image Analysis for Feature Identification and Change Detection; VAST Challenge 2017: Honorable Mention for Good Facilitation of Single Image Analysis." In the *In IEEE Conference on Visual Analytics Science and Technology (VAST)*. 2017.
> VAST Challenge 2017 Honorable Mention

A-02. A. Tuladhar, S. Malla, **Ghulam Jilani Quadri**, & P. Rosen. "Data Aggregation and Visualization Technique for Traffic Sensor Data" In the *In IEEE Conference on Visual Analytics Science and Technology (VAST)*. 2017.

A-01. **Ghulam Jilani Quadri**, A. Tuladhar, S. Malla, & P. Rosen. "Data Aggregation and Visualization Technique for Traffic Sensor Data" In the *In IEEE Conference on Visual Analytics Science and Technology (VAST)*. 2017.

Panels, Tutorials, Symposia, & Workshops

P-6. A. Z. Wang, S. Long, **Ghulam Jilani Quadri**, C. Zimnicki, & O. Jiang. "VISxVISION 2026: Leveraging Vision Science Approaches to Ground Theory, Methods, and Reliability of Visualization." Workshop at *IEEE VIS.* Boston, USA, 2026.

P-5. **Ghulam Jilani Quadri**, C. Zimnicki$^{(s)}$, K. Lin$^{(s)}$, S. Hu$^{(s)}$, S & O. Jiang$^{(s)}$. "VisxVision: Workshop on Novel Directions in Vision Science and Visualization Research." Symposium at *Vision Sciences Society Annual Meeting.* St. Pete's Beach, FL, 2026.

P-4. M. Meyer, **Ghulam Jilani Quadri**, & P. Rosen. "Navigating the Maze of Guidelines to Unify Visualization Design Recommendations." *Dagstuhl Seminar 25232.* Dagstuhl, Germany, 2025.

P-3. **Ghulam Jilani Quadri**, D. Albers Szafir, A. Zeyu Wang$^{(s)}$, & H. Jeon$^{(s)}$. "(Yet Another) Evaluation Needed? A Panel Discussion on Evaluation Trends in Visualization." Panel at *IEEE VIS.* Tampa (Virtual), FL, 2024.

P-2. **Ghulam Jilani Quadri**, C. Zimnicki$^{(s)}$, R. Fygenson$^{(s)}$, & O. Jiang$^{(s)}$. "VisxVision: Workshop on Novel Directions in Vision Science and Visualization Research." Symposium at *Vision Sciences Society Annual Meeting.* St. Pete's Beach, FL, 2024.

P-1. **Ghulam Jilani Quadri**, C. Zimnicki$^{(s)}$, R. Fygenson$^{(s)}$, M. Awad$^{(s)}$, & O. Jiang$^{(s)}$. "VisxVision: Workshop on Novel Directions in Vision Science and Visualization Research." Workshop at *IEEE VIS.* Melbourne, Australia, 2023.

Invited Articles

I-03. M. Meyer, **Ghulam Jilani Quadri**, & P. Rosen. "Navigating the Maze of Guidelines to Unify Visualization Design Recommendations (Dagstuhl Seminar 25232)" *Report from Dagstuhl Seminar 25232, 2025*.

I-02. **Ghulam Jilani Quadri**. "Towards Constructing Frameworks for Task and Design Optimized Visualizations." *IEEE CG& A*, 44(5): 104-113, 2024.
> Invited article as a Dissertation Impact from IEEE CG&A

I-01. **Ghulam Jilani Quadri**. "2022 VGTC Visualization Dissertation Award." *IEEE Transactions on Visualization in Computer Graphics*, 29(1): 1, 2022.

Dissertation

D-1. **Ghulam Jilani Quadri**. "Constructing Frameworks for Task-Optimized Visualizations." *University of South Florida, Tampa*, 2021.
> IEEE Visualization & Graphics Pioneers Doctoral Dissertation Award, 2022
> Committee: Profs. Paul Rosen (Chair), Shaun Canavan, John Licato, Mahshid Naeini, & Brenton Wiernik
> Committee: https://digitalcommons.usf.edu/etd/9213

Publications Under Review

UR-3. **Ghulam Jilani Quadri**, A. Wang, C. Tseng, H. Jeon, A. Sarikaya, P. Rosen, & D. Albers Szafir. "A Design-Oriented Framework for Comparing Overdraw Reduction Methods in Scatterplots." Under review for *IEEE TVCG*.

Press Coverage

"Researcher Award." *OU DISCovering Newsletter*, 2026.

"Leading Experts to Unite Visualization Design Guidelines at Dagstuhl Seminar." *OU DISCovering Newsletter*, 2025.

"Assistant Professor Ghulam Quadri Named BrainKorea Global Visiting Fellow." *OU DISCovering Newsletter*, 2024.

"2022 IEEE VGTC Visualization Dissertation Award ." *IEEE Computer Society and VGTC*, 2022.

Invited External Talks

Seminars & Colloquia

2025 "Driving an Exploratory Data Analysis through a Perception-Based Framework." *Computer Science Seminar*, Pohang University of Science and Technology (POSTECH), Pohang, South Korea, (Virtual Colloquium).
> Host: Dr. Sunghan Ko

2024 "Driving an Exploratory Data Analysis through a Perception-Based Framework." *Gallogy College of Engineering- Research Event*, University of Oklahoma, Norman, OK.
> Host: Dr. Zahed Siddique

2024 "Driving an Exploratory Data Analysis through a Perception-Based Framework." *KAIST Interaction Lab*, Korea Advanced Institute of Science & Technology (KAIST),Daejeon , South Korea.
> Host: Dr. Juho Kim & Dr. Dae Hyun Kim

2024 "Driving an Exploratory Data Analysis through a Perception-Based Framework." *HCIL Lab*, Seoul National University (SNU), Seoul, South Korea.
> Host: Dr. Jinwook Seo

2024 "Optimizing Visualization Design Through a Perception-Based Framework." *Interactive Data Computing Lab*, Sungkyunkwan University (SKKU), Seoul, South Korea.
> Host: Dr. Jaemin Jo

2024 "Exploratory Framework for High-Level Visualization Comprehension." *Human-AI Interaction and Visualization Lab*, Ulsan National Institute of Science & Technology (UNIST), Ulsan, South Korea.
> Host: Dr. Sunghan Ko

2024 "Driving an Effective Data Exploration through a Perception-Based Framework." *Scientific Computing and Imaging Institute (SCI)*, University of Utah, Salt Lake City, UT.
> Host: Dr. Paul Rosen and Dr Alex Lex

2023 "Driving an Effective Data Exploration through a Perception-Based Framework." *Gallogy College of Engineering and DISC*, University of Oklahoma, Norman, OK.
> Host: Dr. David Ebert

2023 "Constructing Framework for Task-Optimized Visualization." *HCIL Lab*, Seoul National University (SNU), Seoul, South Korea.
> Host: Dr. Jinwook Seo

2022 "Driving an Effective Data Exploration through a Perception-Based Framework." Roux Institute, Portland, MN.
> Host: Dr. Melanie Tory

2022 "Driving an Effective Data Exploration through a Perception-Based Framework." *Computer Science Department- LASER Lab*, University of Massachusetts, Amherst (virtual).
> Host: Dr. Yixue Zhao

2022 "Constructing Framework for Task-Optimized Visualization." NSF- Networking in Information Technology Research and Development Symposium, DC.
> Host: CRA

2022 "Constructing Framework for Task-Optimized Visualization." NSF/CRA/CCC Computing Innovation Fellow Event, DC.
> Host: CRA

2020 "Constructing Framework for Task-Optimized Visualization." *Doctoral Colloquium*, IEEE VIS 2020, Salt Lake City, Utah.

Presentations at Conference

2024 "Do You See What I See? A Qualitative Study Eliciting High-Level Visualization Comprehension." *ACM CHI*. Honolulu, HI.
> Accepted Conference Paper Presentation

2023 "CLAMS: Cluster Ambiguity Measure for Estimating Perceptual Variability in Visual Clustering." *IEEE VIS*. Melbourne, Australia.
> Accepted Conference Paper Presentation

2023 "Automatic Scatterplot Design Optimization for Clustering Identification." *IEEE VIS*. Melbourne, Australia.
> Accepted IEEE TVCG Paper Presentation

2022 "A Survey of Perception-Based Visualization Studies by Task." *IEEE VIS*. Oklahoma City, OK.
> Accepted IEEE TVCG Paper Presentation

2022 "Eliciting High-Level Visual Comprehension: A Qualitative Study." *IEEE VIS*. Oklahoma City, OK.
> Accepted Poster Presentation

2020 "Modeling the Influence of Visual Density on Cluster Perception in Scatterplots Using Topology." *IEEE VIS*. Salt Lake City, UT (Virtual).
> Accepted Conference Paper Presentation

2019 "You Can't Publish Replication Studies (and How to Anyways." *IEEE Workshop on VIS x VISION*. IEEE VIS, Vancouver, Canada.

2018 "Modeling Cluster Multi-factor Perception in Scatterplots Using Merge Trees." *IEEE Workshop on VIS x VISION*. IEEE VIS, Berlin, Germany.

2017 "MultiSpectral Satellite Image Analysis for Feature Identification & Detection." *IEEE VAST Challenge*. IEEE VIS, Phoenix, AZ.
> Accepted VAST Challenge Presentation: Honorable Mention Award

Miscellaneous

2020 "Constructing Frameworks for Task-Optimized Visualizations." *Doctoral Colloquium*. IEEE VIS, Salt Lake City (Virtual).
> Accepted Doctoral Colloquium Presentation

2019 "Modeling Effective Visualization Using Graphical Encoding Perception." *Computer Science and Engineering Department*. University of South Florida, Tampa, FL.
> Major Area Presentation for Defense Proposal

2018 "Flit-Path Industry and Research Shadow Experience." *Computer Science and Engineering Department*. University of South Florida, Tampa, FL.
> Panel Discussion for Undergraduate Students

Funding

Federal and International Grants

2024 **BK21 Global Visiting Fellow** at Seoul National University, South Korea
Brain Korea 21 Global Foundation
Host: Dr. Jinwook Seo
Amount: $9000
Additional Information: Funding of 7 million KRW (9,000 USD) awarded from Brain Korea 21 Foundation for Summer 2024 visit at SNU.

2021–2024 **Computing Innovation Fellows 2021 Project** at University of North carolina at Chapel Hill
Computing Research Association NSF-CNS #212730
Advisor: Dr. Danielle Albers Szafir
Project: Developing Perceptual Framework for Task-Optimized Visualization
Amount: $302,445
Additional Information: Funding co-authored with Dr. Danielle Szafir and written for the support of postdoctoral fellowship.

2020 **Doctoral Colloquium Travel Grant** at IEEE VIS 2020, Salt Lake City
Amount: Travel and Attendance
Additional Information: Doctoral Colloquium Travel Grant at IEEE-VIS 2020 Travel and Attendance award for Doctoral Colloquium.

2017 **NSF-Icorps** at University of South Florida, Tampa
Amount: $4,000
Additional Information: Funding for working towards for ride-share load matching patent business implementation.

Intramural Grants

2026 **How Text Embedded Visualization influence Shape Pattern Identification?**
Agency: OU - Provost's 2026 Summer UReCA Fellowships
Investigators: Ghulam Jilani Quadri for student *Jasmine Lim*
Amount: $6,000 ($5000 directly to student)

2025–2026 **Understanding Artist Perspectives and Visitor Engagement with an AI-Powered Learning App at Art Exhibitions**
Agency: OU - Institute for Community and Society Transformation (ICAST) Seed Funding
Investigators: Maharjan Raju (PI), Ghulam Jilani Quadri, Robert Bailey, & Pete Froslie.
Amount: $20,000

2025 **Exploring the Pattern Identification in Snap View Form of Line Charts**
Agency: OU - Provost's 2025 Summer UReCA Fellowships
Investigators: Ghulam Jilani Quadri for student *Jasmine Lim*
Amount: $6,000 ($5000 directly to student)

2024–2025 **Explainable AI Tutoring System for Visual-Spatial and Logical-Mathematical Skill Development**
Agency: OU - Data Institute for Societal Challenges Seed Funding
Investigators: Asare Kofi (PI), Ghulam Jilani Quadri, Somik Ghosh, & Maharjan Raju.
Amount: $7,000

Travel Grants

2020 IEEE VIS Doctoral Colloquium Travel Fellowship. IEEE VIS.

2020 ACM Richard Tapia Conference Travel Grant.

2019 International Travel Grant for IEEE VIS 2019. University of South Florida.

Fellowships

2024 BK21 Global Visiting Fellowship. Seoul National University, South Korea.

2021 Computing Innovation Fellows. Computing Research Association.

2021 Dissertation Completion Fellowship. University of South Florida

Teaching

Courses Taught

Research-oriented independent studies are not included in this list. Newly developed courses are indicated with a * and include any available catalog description.

Spring 2026 **CS 4063/5063: Human-Computer Interaction**.
Current Enrollment: 75 students (64 undergraduate, 11 graduate)

Spring 2026 **CS 5970: Information Visualization**
Current Enrollment: 4 students

Spring 2025 **CS 4063/5063: Human-Computer Interaction**.
Enrollment: 96 students (89 undergraduate, 7 graduate)

Spring 2025 **CS 5970: Information Visualization**
Enrollment: 19 students

Spring 2024 **CS 4933: Computer Research Fundamental**
Enrollment: ∗Approved; not offered yet

Summer 2017 **COP 3353: Computer Research Fundamental***
Enrollment: 61 Student at University of South Florida

Teaching Assistantships

Spring 2021 **CIS4930/6930: Interactive Data Visualization**
University of South Florida
Enrollment: 45 graduate students

Summer 2020 **CDA3103: Computer Organization**
University of South Florida
Enrollment: 60 students

Spring 2020 **CNT4104: Computer Info Networks**
University of South Florida
Enrollment: 58 students

Spring 2020 **COP4931: Malware Analysis & Reverse Engineering**
University of South Florida
Enrollment: 50 students

Spring 2019 **CIS4930/6930: Data Visualization**
University of South Florida
Enrollment: 50 students

Spring 2019 **COP2513: Object Oriented Programming**
University of South Florida
Enrollment: 90 students

Spring 2018 **CIS4930/6930: Data Visualization**
University of South Florida
Enrollment: 50 students

Fall 2017 **EEL6764: Principle of Computer Architecture**
University of South Florida
Enrollment: 60 students

Summer 2016 **COT4400: Analysis of Algorithm**
University of South Florida
Enrollment: 45 students

Mentorship & Advising

Ph.D. Direct Advisees

2026–Present **Samantha Black**, Computer Science, University of Okhlahoma
Expected Proposal: Fall 2027

2026–Present **Mahmoud Mousa Hamad**, Computer Science (Co-Advise with Dr. Ziming Liu), University of Okhlahoma
Expected Proposal: Fall 2027

2026–Present **Aaryani Chowdhary Ambati**, DSAI, University of Okhlahoma
Expected Proposal: Fall 2027

2025–Present **Braden Roper**, Computer Science, University of Okhlahoma
Expected Defense: Spring 2027

2025–Present **Debra Hogue**, Computer Science, University of Okhlahoma
Expected Defense: Summer 2026

2025–Present **Shane David Elliott**, Computer Science, University of Okhlahoma
Expected Proposal: Fall 2026

2025–2025 **Nam Hyunh**, Computer Science, University of Okhlahoma
Expected Proposal: TBD

2025–Present **Tapendra Pandey**, Computer Science, University of Okhlahoma
Expected Proposal: Spring 2027

Ph.D. Thesis Committee Membership

2024–2025 **Omkar Saiswaroop Varma Chekur**, Department of Computer Science, University of Oklahoma
Title: Augmenting Hierarchical Visualizations with Topology-Centric Representations and Interactions
Advisor: Chris Weaver

2024–2025 **Braden Roper**, Department of Computer Science, University of Oklahoma
Title Forthcoming
Advisor: Chris Weaver

2024–2025 **Debra Hogue**, Department of Computer Science, University of Oklahoma
Title: Forthcoming
Advisor: Chris Weaver

2024–2025 **Shane David Elliott**, Department of Computer Science, University of Oklahoma
Title: Forthcoming
Advisor: Chris Weaver

2024–2025 **Yonathan F. Hendrawan**, Department of Computer Science, University of Oklahoma
Title: (Student opted for M.S)
Advisor: Chris Weaver

2024–2026 **Chin Tseng**, Department of Computer Science, University of North Carolina–Chapel Hill
Title: Automating Effective Categorical Palette Design: Empirically Grounded Tool for Color, Shape, and Redundant Encodings
Advisor: Danielle Szafir

2024–2026 **Hyeon Jeon**, Department of Computer Science and Engineering, Seoul National University, South Korea
Title: Dimensionality Reduction Considered Harmful (Some of the Time)
Advisor: Jinwook Seo

2022–Present **Dilshad Ur Rahman**, Department of Computer Science, University of Utah
Title Forthcoming
Advisor: Paul Rosen

Graduate Student Direct Advisees

2025–2026 **Tapendra Pandey**, M.S. in Computer Science, University of Oklahoma
> Now PhD Student In DIV-Lab

2025–Present **Mathew Tran**, M.S. in Computer Science (Accelerated M.S.), University of Oklahoma

2026–Present **Mathew Tran**, M.S. in Computer Science (Accelerated M.S.), University of Oklahoma

2026–Present **Jasmine Lim**, M.S. in Computer Science (Accelerated M.S.), University of Oklahoma
2025 **Dhanushwi Arawa**, M.S. in Computer Science (Accelerated M.S.), University of Oklahoma
2025 **Nischal Dinesh**, M.S. in Computer Science (Accelerated M.S.), University of Oklahoma
2024–2025 **Demilade Jooda**, M.S. in Computer Science, University of Oklahoma
> Now at Goldman Sachs

M.S. Thesis Committee Membership

2026 **Mark Castle**, School of Computer SCience, University of Oklahoma
Generalized Performance Primitives For Tensor Computations
Advisor: Richard Veras

M.S. Exit Exam Committee and Supervision at OU- CS

Spring 2026 Students: Kamal Poshala, Vinaykrishna Mattela, Sai Kukudala, Soumith Asani, Vikash Kokku
Fall 2025 Students: Nandini Krishna Seelamsetti, Arawa Dhanushvi (Paper Approver), Tommy Pham, Ujwala Vasireddy
Spring 2025 Students: Chandana Kamasani, Demilade Jooda (Paper Approver), Sanjana Kalidindi (Paper Approver), Deep Patel, Anushree Logitla
Fall 2024 Students: Hanna March, Jacub Janek, Chelsea Murray, Venkata Kanamralpudi
Spring 2024 Student: Nikhil Mora

M.S. Practicum Committee and Supervision at OU- DSAI

Spring 2026 Students: Mehdi Zeifai, Poorna Chandan Reddy, Kesani, Soumya Sri
Fall 2025 Students: Anish Vishnu, Yashaswi Dantala, Eswar Subrahmanyam Kesana

Undergraduate Students

2025 **Mathew Tran**, School of Computer Science, University of Oklahoma
2025 **Cale Bible**, School of Computer Science, University of Oklahoma
2024–2026 **Jasmine Lim**, School of Computer Science, University of Oklahoma
2023–2024 **Sophia Lin**, Computer Science, University of North Carolina–Chapel
> Honors Thesis: Toward an Outlier Uncertainty Model – A Comparative Analysis
2023–2024 **Feng Lin**, Computer Science, University of North Carolina–Chapel
> Published Paper as First Author ***[W04]***
2023–2024 **Zhehao Wang**, Computer Science, University of North Carolina–Chapel Hill
> Published Paper as Co-Author ***[C02]***
2022 **Rosie Xiao**, Information Science, University of North Carolina–Chapel Hill
2022 **Zhuowen Ye**, Information Science, University of North Carolina–Chapel Hill
2022 **Charlotte Dorn**, Computer Science, University of North Carolina–Chapel Hill
2022 **Lama Abed**, Computer Science, University of North Carolina–Chapel Hill

Service to the Professional Community

Organizing Committees

2026 Co-Chair, VISxVISION 2026: Leveraging Vision Science Approaches to Ground Theory, Methods, and Reliability of Visualization
2023–Present Co-Chair, VISxVISION Workshop on Novel Directions in Vision Science and Visualization Research at IEEE VIS
2024-Present Co-Chair, VISxVISION Workshop: Novel Vision Science Research Directions in Visualization at the Vision Sciences Society Annual Meeting
2024 Co-Panelist, IEEE VIS Doctoral Colloquium
2024 Co-Organizer, IEEE VIS, Tampa Florida

Program Committee Participation

2025-2026 IEEE PacificVis (TVCG Journal Paper Track)
2023–2025 IEEE VIS (Full Paper Track)
2022–2023, 2026 IEEE VIS (Short Paper Track)

2025 IEEE PacificVis (Conference Paper Track)
2025–2026 EuroVis: Eurographics Conference on Visualization (Short Paper Track
2022–2023 IEEE VIS (Short Paper Track)

Grant Referee Service

2025 Reviewer, National Science Foundation
2024 Reviewer, National Science Foundation

Journal & Conference Referee Service

2021–2026 IEEE TVCG: IEEE Transactions on Visualization and Computer Graphics
2026 ACM SIGGRAPH
2026 ACM International Conference on Tangible, Embedded and Embodied Interaction (TEI)
2020–2026 IEEE VIS: Visualization & Visual Analytics
> Special Recognition: 2023, 2024
2026 PLOS One
2025 International Journal of Human–Computer Interaction
2016–2026 ACM CHI: ACM Conference on Human Factors in Computing Systems
> Special Recognition: 2024, 2026
2025 IEEE VIS Workshop on Visualization for Communication (VisComm)
2025 HICSS - Hawaii International Conference on System Sciences
2025 IEEE Transaction on Applied Perception
2024 IEEE VIS Workshop on Visualization Education, Literacy, and Activities (EduVis)
2023-2024 Information Visualization Journal
2023, 2025–2026 Computer Graphics Forum Journal
2024–2025 IEEE Computer Graphics & Applications Journal
2024 NordiCHI
2022–2023, 2025-2026 IEEE Pacific Visualization Conference (PacificVis)
*> Special Recognition:*2025
2020–2023, 2025–2026 EuroVis: Eurographics Conference on Visualization
2020 IEEE Workshop on Visualization and Vision Science (VisxVision) at IEEE VIS

Special Interest Group Meeting, Conference, and Workshop Organization

2026 Co-Organizer, *VISxVISION 2026: Leveraging Vision Science Approaches to Ground Theory, Methods, and Reliability of Visualization*, IEEE VIS
2026 Co-Organizer, *Satellite Event VisxVision*, Vision Science Society
2025 Co-Organizer, *Navigating the Maze of Guidelines to Unify Visualization Design Recommendations*, Dagstuhl Seminar # 25232
2024 Co-Organizer, *(Yet Another) Evaluation Needed? A Panel Discussion on Evaluation Trends in Visualization*, Panel Discussion at IEEE VIS
2024 Co-Organizer, *Satellite Event for Visualization Meets Visions*, Vision Science Society
2024 Co-Organizer, *Fast Forward*, IEEE VIS
2023 Co-Organizer, *VisxVision: Workshop on Novel Directions in Vision Science and Visualization Research*, IEEE VIS

Student Volunteering

2021–2022 Student Volunteer Day captain, *ACM CHI*
2019–2021 Student Volunteer Day captain, *IEEE VIS*
2017–2021 Student Volunteer, *IEEE VIS*

Service to the University

Departmental Service

2025–Present Graduate Admission Committee, School of Computer Science
2025–Present Graduate ABET Assessment Committee, School of Computer Science

2024–Present Faculty Research Committee, School of Computer Science
2024–2025 Department Space Committee, School of Computer Science
Fall 2025 Department Representative - Engineering Open House, Department of Computer Sciences

College Service

2025–2026 DSA5900 Professional Practice Committee, DSAI, Gallogy College of Engineering, University of Oklahoma

University Service

2025–Present Faculty Lead, Human-Centered Trustable AI Community of Practice at DISC
> Formed a new Community of Practice as a faculty lead
2025 Poster Judge, DISC Symposium
2024–2025 Faculty Lead, Human-Centered Trustable AI Community of Practice at DISC
> organized event and workshops bringing together researchers from OU Norman, OU HSC, and ORMF

Professional & Academic Memberships

2026–Present Vision Science Society Member
2022–Present ACM Member
2022–Present IEEE Member
2018–Present Phi Theta Kappa International Honor Society Member
2017–Present Tau Beta Phi International Honor Society Member

Professional references available upon request.