Jessica Hullman

3521 Mudd Hall, 2233 Tech Drive, Evanston, IL 60208

(720) 280-8636

jhullman@northwestern.edu Last updated: Aug 2024.

Current Appointment

2024 Ginni Rometty Professor of Computer Science

Northwestern University, Evanston IL.

2024- Faculty Fellow, Institute for Policy Research

Northwestern University, Evanston IL.

Prior Positions

2021–2024 Ginni Rometty Associate Professor of Computer Science

Northwestern University, Evanston IL.

2022 Law & Society Fellow

Simons Institute, Berkeley, CA.

2022 Visiting Researcher

Microsoft Research, New York, NY.

2020-2021 Associate Professor of Computer Science

Northwestern University, Evanston IL.

2018–2020 Allen K. and Johnnie Cordell Breed Assistant Professor of Computer Science

Assistant Professor of Journalism Northwestern University, Evanston IL.

2015–2018 Assistant Professor of Information Science

Adjunct Assistant Professor of Computer Science & Engineering

University of Washington, Seattle, WA.

2014 Postdoctoral Fellow

Computer Science, University of California, Berkeley, CA.

Mentor: Maneesh Agrawala

Education

2014 Ph.D. in Information Science

Committee: E. Adar (Chair), T. Finholt, P. Resnick, P. Shah. University of Michigan School of Information, Ann Arbor, MI.

2008 Master of Science in Information

Specialization in Information Analysis & Retrieval.

University of Michigan School of Information, Ann Arbor, MI.

2003 Bachelor of Arts

Comparative Studies in Religion. Honors with distinction.

Ohio State University, Columbus, OH.

_	Awards & Honors
2024	Honorable Mention for Best Paper award. ACM CHI 2024. Top 4% total submissions.
2023	Best Research Mentor. Northwestern Computer Science Department.
2023	Best Paper award. IEEE VIS 2023. Top 6 accepted papers.
2023	Honorable Mention for Best Paper award. ACM CHI 2023. Top 4% total submissions.
2021	Honorable Mention for Best Paper award. IEEE InfoVis 2021. Top 5 accepted papers.
2020	Best Paper award. IEEE InfoVis 2020. Top I accepted paper.
2020	Honorable Mention for Best Paper award. ACM CHI 2020. Top 4% total submissions.
2019	Microsoft Faculty Fellowship. One of five computer scientists chosen in 2019.
2018	Honorable Mention for Best Paper award. ACM CHI 2018. Top 4% total submissions.
2017	Honorable Mention for Best Paper award. IEEE InfoVis 2017. Top 3 accepted papers.
2013	Gary M. Olson Outstanding Ph.D. Student Award.
	School of Information at the University of Michigan. One chosen by faculty annually.
2011	Honorable Mention for Best Paper award. IEEE InfoVis 2011. Top 3 accepted papers.
_	Research Funding
2022	NSF CISE Medium Award. #2211939, co-PI: Matt Kay, \$1.2m. Improving data visualization and analysis tools to support reasoning about analysis assumptions.
2017–2022	Adobe Software. ~\$20k annual. Unrestricted Research Donations.
2021	U.S. Navy. #N17A-T004 extension, with Stottler Henke and Associates, \$125k. Visual tools and progressive automation for complex knowledge management and decision support.
2019	U.S. Navy. #N17A-T004, with Stottler Henke and Associates, \$300k. Visual tools and progressive automation for complex knowledge management and decision support.
2019	NSF CISE Small Award. #1907941, co-PI: Jeff Heer (University of Washington), \$523k
	Representing and learning visualization design knowledge
2018	NSF CISE CAREER Award. #1930642, \$524k, REU Supplement (\$12k). Enhancing critical reflection on data by integrating users' expectations in visualization interaction.
2017	U.S. Navy. With Stottler Henke and Associates, \$70k. Visualizing complex scientific knowledge for decision making.
2016	NSF CRII Award. \$174k Facilitating consumption and re-expression of scientific information in a journalism context.
2015	Google Faculty Award. Co-PI: Sean Munson (University of Washington), \$67k.
	User-centered representations of uncertainty in everyday predictive systems.
_	Journal Papers
2024	What to Consider When Considering Differential Privacy for Policy Nanayakkara, P., and Hullman, J. Policy Insights from the Behavioral and Brain Sciences, 2024.
2024	VMC: A Grammar for Visualizing Statistical Model Checks Guo, Z., Kale, A., Kay, M., and Hullman, J. IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2024, 23.2%, 129/557)
2024	REFORMS: Consensus-based Recommendations for Machine-learning-based Science Kapoor, S., Cantrell, E. M., Peng, K., Pham, T. H., Bail, C., Gundersen, O. E., Hofman, J., Hullman, J., A

Lones, M., Malik, M., Nanayakkara, P., Poldrack, R., Raji, I. D., Roberts, M., Salganik, M., Serra-Garcia, M., Stewart, B., Vandewiele, G., and Narayanan, A. Science Advances, 10 (18), 2024.

2023 Causal Quartets: Different Ways to Attain the Same Average Treatment Effect

Gelman, A., **Hullman, J.**, Kennedy, L. American Statistician, 78 (3), 2023.

The Rational Agent Benchmark for Data Visualization

Wu, Y., Guo, Z., Mamakos, M., Hartline, J., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2023, 24.6%, 133/539)

2023 Are We Closing the Loop Yet? Gaps in the Generalizability of VIS4ML Research

Subramonyam, H., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2023, 24.6%, 133/539)

2023 Dupo: A Mixed Initiative System for Responsive Visualization Authoring

Kim, H., Rossi, R., Hoffswell, J., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2023, 24.6%, 133/539)

2023 EVM: Incorporating Model Checking into Exploratory Visual Analysis

Kale, A., Guo, Z., Qiao, E., Heer, J., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2023, 24.6%, 133/539)

Swaying the Public? Impacts of Election Forecast Visualizations on Emotion, Trust, and Intention in the 2022 U.S. Midterms

Yang, F., Cai, M., Mortenson, C., Fakhari, H., Lokmanoglu, A., **Hullman, J.**, Franconeri, S., Diakopoulos, N., Nisbet, E., and Kay, M.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of IEEE VIS 2023, 24.6%, 133/539)

• Best Paper Award.

2021 The Science of Visual Data Communication: What Works

Franconeri, S., Padilla, L., Shah, P., Zacks, J., and Hullman, J.

Psychological Science in the Public Interest

2021 A Survey of Domain Knowledge Elicitation in Applied Machine Learning

Kerrigan, D., Hullman, J., and Bertini, E.

Multimodal Technologies and Interaction (Special Issue: Al for and by the People)

2021 Causal Support: Modeling Causal Inferences with Visualizations

Kale, A., Wu, Y., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2021, 25%, 114/442)

O Honorable Mention Award.

2021 Visualization Equilibrium

Kayongo, P., Sun, G., Hartline, J., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2021, 25%, 114/442)

2021 An Automated Approach to Reasoning About Task-Oriented Insights in

Responsive Visualization

Kim, H., Rossi, R., Sarma, A., Moritz, D., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2021, 25%, 114/442)

2021 Visualizing Uncertainty in Probabilistic Graphs with Network Hypothetical Outcome Plots (NetHOPs)

Zhang, D., Adar, E., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2021, 25%, 114/442)

2023

2021 Designing for Interactive Exploratory Data Analysis Requires Theories of Graphical Inference

Hullman, J. and Gelman, A.

Harvard Data Science Review, Issue 3.3 (Summer 2021)

2021 Design Patterns and Trade-offs in Responsive Visualization for Communication

Kim, H., Moritz, D., and Hullman, J.

Computer Graphics Forum (Proceedings of EuroVis 2021, 26%, 45/173)

2020 Information, incentives, and goals in election forecasts

Gelman, A., Hullman, J., Wlezien, C., and Morris, G. E.

Judgment and Decision Making

2020 Challenges in Evaluating Interactive Visual Machine Learning Systems

Boukhelifa, N., Bezerianos, A., Chang, R., Collins, C., Drucker, S., Endert, A., **Hullman, J.**, North, C., and Sedlmair, M.

IEEE Computer Graphics & Applications (CGA)

2020 Visual Reasoning Strategies for Effect Size Judgments and Decisions

Kale, A., Kay, M., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2020, 25.6%, 64/250)

• Best Paper Award.

2020 Bayesian-Assisted Inference from Visualized Data

Kim, Y-S., Kayongo, P., Grunde-McLaughlin, M., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2020, 25.6%, 64/250)

2019 Why Authors Don't Visualize Uncertainty

Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2019, 25.7%, 54/209)

2019 Illusion of Causality in Visualized Data

Xiong, C., Shapiro, J., Hullman, J., and Franconeri, S.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2019, 25.7%, 54/209)

2018 In Pursuit of Error: A Survey of Uncertainty Visualization Evaluation

Hullman, J., Qiao, X., Correll, M., Kale, A., and Kay, M.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2018, 25.7%, 47/183)

2018 Hypothetical Outcome Plots Help Untrained Observers Judge Trends in Ambiguous Data

Kale, A., Nguyen, F., Kay, M., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2018, 25.7%, 47/183)

2017 Keeping Multiple Views Consistent: Constraints, Validations & Exceptions

Qu, Z. and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2017, 23%, 39/170)

O Honorable Mention Award.

2017 Imagining Replications: Graphical Prediction & Discrete Visualizations Improve Recall & Estimation of Effect Uncertainty

Hullman, J., Kay, M., Kim, Y-S., & Shrestha, S

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2017, 23%, 39/170)

2017 Data Through Others' Eyes: The Impact of Visualizing Others' Expectations on Visualization Interpretation

Kim, Y-S., Reinecke, K., and Hullman, J.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2017, 23%, 39/170)

2017 Finding a Clear Path: Structuring Strategies for Visualization Sequences

Hullman, J., Kosara, R., and Lam, H.

Computer Graphics Forum (Proceedings of EuroVis 2017, 27%, 46/170)

2015 Hypothetical Outcome Plots Outperform Error Bars and Violin Plots for Inferences About Reliability of Variable Ordering

Hullman, J., Resnick, P., and Adar, E.

PLOS ONE

2013 A Deeper Understanding of Sequence in Narrative Visualization

Hullman, J., Drucker, S., Riche, N., Lee, B., Fisher, D., and Adar, E.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2013, 25%, 38/151)

2011 Benefitting InfoVis with Visual Difficulties

Hullman, J., Adar, E., and Shah, P.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2011, 26%, 44/172)

O Honorable Mention Award.

2011 Visualization Rhetoric: Framing Effects in Narrative Visualization

Hullman, J. and Diakopolous, N.

IEEE Transactions of Visualization & Computer Graphics (Proceedings of InfoVis 2011, 26%, 44/172)

Referred Conference Proceedings

2024 Measure-Observe-Remeasure: An Interactive Paradigm for Differentially-Private Exploratory Analysis

Nanayakkara, P., Kim, H., Wu, Y., Sarvghad, A., Mahyar, N., Miklau, G., and **Hullman, J.** IEEE symposium on Privacy & Security (Proceedings of S&P 2024)

2024 A Statistical Framework for Measuring Al Reliance

Guo, Z., Wu, Y., Hartline, J., and Hullman, J.

ACM Conference on Fairness, Accountability, & Transparency (Proceedings of FAccT 2024)

2024 Evaluating the Utility of Conformal Prediction Sets for Al-Advised Image Labeling

Zhang, D., Chatzimparmpas, A., Kamali, N., and Hullman, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2024, 26.3%, 1060/4028)

O Honorable Mention Award.

2024 Erie: A Declarative Grammar for Data Sonification

Kim, H., Kim, Y-S., and Hullman, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2024, 26.3%, 1060/4028)

2024 Milliways: Taming Multiverses through Principled Evaluation of Data Analysis Paths

Sarma, A., Hwang, K., Hullman, J., and Kay, M.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2024, 26.3%, 1060/4028)

2024 Designing Shared Information Displays for Agents of Varying Strategic Sophistication

Zhang, D., Hartline, J., and Hullman, J.

ACM Conference on Computer-Supported Cooperative Work (Proceedings of CSCW 2024)

2023 MetaExplorer: Facilitating Reasoning with Epistemic Uncertainty in Meta-analysis

Kale, A., Lee, S., Goan, T., Tipton, E., and Hullman, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2023, 28%, 880/3099)

2023 multiverse: Multiplexing Alternative Data Analyses in R Notebooks

Sarma, A., Kale, A., Moon, M., Taback, N., Chevalier, F., Hullman, J., and Kay, M.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2023, 28%, 880/3099)

O Honorable Mention Award.

2022	What's Driving Conflicts Around Differential Privacy for the US Census Nanayakkara, P. and Hullman, J. IEEE Security & Privacy Magazine, 2022.
2022	The Worst of Both Worlds: A Comparative Analysis of Errors in Learning from Data
	in Psychology and Machine Learning Hullman, J., Kapoor, S., Nanayakkara, P., Gelman, A., and Narayanan, A. AAAI/ACM Conference on Artificial Intelligence, Ethics, & Society (Proceedings of AIES 2022, 34%, 79/235)
2022	Examining Responsibility and Deliberation in Al Impact Statements and Ethics Reviews Liu, D., Nanayakkara, P., Hullman, J., Sakha, S., Abuhamad, G., Blodgett, S. L., Diakopoulos, N., and Elliasi-Rad, T. AAAI/ACM Conference on Artificial Intelligence, Ethics, & Society (Proceedings of AIES 2022, 34%, 79/235)
2022	Cicero: A Declarative Grammar for Responsive Visualization Kim, H., Rossi, R., Du, F., Koh, E., Guo, S., Hullman, J., and Hoffswell, J. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2022, 24.6%, 634/2579)
2022	Visualizing Privacy-Utility Trade-Offs in Differentially Private Data Releases Nanayakkara, P., Bater, J., He, X., Hullman, J., and Rogers, J. Proceedings of Privacy Enhancing Technologies Symposium (PoPETS '22)
2021	Unpacking the Expressed Consequences of AI Research in Broader Impact Statements Nanayakkara, P., Hullman, J., and Diakopoulos, N. AAAI/ACM Conference on Artificial Intelligence, Ethics, & Society (Proceedings of AIES 2021, 37.7%, 105/282)
2020	How Visualizing Inferential Uncertainty can Mislead Readers About Treatment Effects in Scientific Results Hofman, J., Goldstein, D., and Hullman, J. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2020, 24.3%, 760/3126) O Honorable Mention Award.
2020	Human Factors in Model Interpretability: Industry Practices, Challenges, and Needs Hong, S., Hullman, J., and Bertini, E. ACM Conference on Computer-Supported Cooperative Work (Proceedings of CSCW 2020)
2019	Inking Your Insights: Investigating Digital Externalization Behaviors During Data Analysis Kim, Y-S., Henry, N., Lee, B., Brehmer, M., Pahud, M., Hinkley, K. and Hullman, J. ACM Conference on Interactive Systems & Surfaces (Proceedings of ISS 2019, 30.6%, 26/85)
2019	A Bayesian Cognition Approach to Improve Data Visualization Kim, Y-S., Walls, L., Krafft, P., and Hullman, J. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2019, 23.8%, 705/2938)
2019	Vocal Shortcuts for Creative Experts Kim, Y-S., Dontcheva, M., Adar, E., and Hullman, J. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2019, 23.8%, 705/2938)
2019	Decision-Making Under Uncertainty in Research Synthesis: Designing for the Garden of Forking Paths Kale, A., Kay, M., and Hullman, J. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2019, 23.8%, 705/2938)
2019	Some Prior(s) Experience Necessary: Templates for Getting Started with Bayesian Analysis Phelan, C., Hullman, J., Kay, M., and Resnick, P. ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2019, 23.8%, 705/2938)

2019 Belief-Driven Data Journalism

Nguyen, F., Shrestha, S., Germuska, J., Kim, Y-S., and Hullman, J.

Computation+Journalism

2018 Picturing Science: Design Patterns in Graphical Abstracts

Hullman, J., and Bach P.

International Conference on the Theory and Application of Diagrams (Proceedings of DIAGRAMS 2018, 35%)

2018 Improving Comprehension of Measurements Using Concrete Re-expression Strategies

Hullman, J., Kim, Y-S., Nguyen, F., and Agrawala, M.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2018, 25.7%, 666/2590)

2018 Uncertainty Displays Using Quantile Dotplots or CDFs Improve Transit Decision-Making

Fernandes, M., Walls, L., Munson, S., Hullman, J., and Kay, M.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2018, 25.7%, 666/2590)

O Honorable Mention Award.

2017 Explaining the Gap: Visualizing One's Predictions Improves Recall and Comprehension of Data

Kim, Y-S., Reinecke, K., and Hullman, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2017, 25%, 600/2400)

O Best Paper Award.

2017 GraphScape: A Model for Automated Reasoning about Visualization Similarity and Sequencing

Kim, Y., Wongsuphasawat, K., Hullman, J., and Heer, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2017, 25%, 600/2400)

O Honorable Mention Award.

2017 PersaLog: Personalization of News Article Content

Adar, E., Gearig, C., Balasubramanian, A., and Hullman, J.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2017, 25%, 600/2400)

2016 SimpleScience: Lexical Simplification of Scientific Terminology

Kim, Y-S, Hullman, J., Burgess, M., and Adar, E.

Conference on Empirical Methods in Natural Language Processing (Proceedings of EMNLP 2016, 22%, 87/400)

2016 Generating Personalized Spatial Analogies of Distances and Areas

Kim, Y-S, Hullman, J., and Agrawala, M.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2016, 23%, 538/2300)

When(ish) is my Bus: User-centered Visualizations of Uncertainty in Everyday Mobile Predictive Systems

Kay, M., Kola, T., Hullman, J., and Munson, S.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2016, 23%, 538/2300)

2015 DeScipher: A Text Simplification Tool for Science Journalism

Kim, Y-S, Hullman, J., and Adar, E.

Computation+Journalism

2015 Designing for Personalized Article Content

Gearig, C., Adar, E., and Hullman, J.

Computation+Journalism

2015 Designing for Personalized Article Content

Hullman, J., Krupka, E., and Adar, E.

Collective Intelligence

2015 Content, Context, & Critique: Commenting on a Data Visualization Blog

Hullman, J., Diakopolous, N., Momeni Roochi, E., and Adar, E.

ACM Conference on Computer-Supported Cooperative Work (Proceedings of CSCW 2025, 28%, 575/2032)

2014 NewsViews: An Automated Pipeline for Creating Custom Geovisualizations for News

Gao, T., Hullman, J., Adar, E., Hecht, B., and Diakopoulos, N.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2014, 22.8%, 464/2034)

2013 Contextifier: Automatic Generation of Annotated Stock Visualizations

Hullman, J., Diakopolous, N., and Adar, E..

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2013, 20%, 392/1963)

2011 The Effect of Social Information on Visual Judgments

Hullman, J., Adar, E., and Shah, P.

ACM Conference on Human Factors in Computing Systems (Proceedings of CHI 2011, 27%, 302/1346)

*Through 2016, I used a convention for student papers where I listed myself earlier when I was the primary faculty mentor. From 2017 to the present, I list myself last when I am the primary faculty mentor on a publication.

Referred Workshop Proceedings

2024 A Statistical Framework for Measuring Al Reliance

Guo, Z., Wu, Y., Hartline, J., and Hullman, J.

Collaborative AI and Modeling of Humans Workshop at AAAI 2024

2020 Anticipatory ethics and the role of uncertainty

Nanayakkara, P., Diakopoulos, N., and Hullman, J.

NeurIPS 2020 Navigating the Broader Impacts of Al Research Workshop

2019 Adaptation and Learning Priors in Visual Inference

Kale, A., and Hullman, J.

VISxVISION Workshop at IEEE VIS 2019

2019 Modeling the Interpretation of Visualized Statistics as Bayesian Cognition

Kim, Y-S., Walls, L., Krafft, P., and Hullman, J.

Behavioral Economics Workshop at Economics and Computation (EC) 2019

2018 Translating Scientific Graphics for Public Audiences

Qiao, X., and Hullman, J.

VisGuides: 2nd Workshop on the Creation, Curation, Critique and Conditioning of Principles and Guidelines in Visualization Workshop at IEEE InfoVis 2018

2016 Evaluating Visualization Sets: Trade-offs Between Local Effectiveness and Global Consistency

Qu, Z., and Hullman, J.

Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV 2016) at IEEE InfoVis 2016

2015 Expectation Visualization

Kim, Y-S., and Hullman, I.

Personal Visualization Workshop at IEEE InfoVis 2015

2013 How Prior Knowledge Affects the Processing of Visualized Data

Hullman, J.

Many People Many Eyes Workshop at ACM CHI 2013

2011 Not all HITs are Created Equal: Controlling for Reasoning and Learning Processes in MTurk

Hullman, J.

Workshop on Crowdsourcing and Human Computation at ACM CHI 2011

2011 Chance-it: Motivating Collaborative Exploration using Spatial Layout on a Multitouch Surface

Hullman, J., McQuaid, M., Chia, Y., Lin, T., and Zhang, Z. Workshop on Large Displays in Urban Life at ACM CHI 2011

2010 A Narratology-Informed Approach to Infovis Design and Evaluation

Hullman, J.

Position paper. Telling Stories with Data Workshop at IEEE InfoVis 2010

2010 Framing Artistic Visualization: Aesthetic Object as Evidence

Hullman, J.

Workshop on Understanding the Creative Act: Modeling to Engagement at Creativity & Cognition 2009

Theses

2014 Understanding and Supporting Trade-offs in the Design of Communicative Visualizations

Hullman, J.

Dissertation. University of Michigan School of Information

Technical Reports

Aug. 2019 Mechanical Turk is Not Anonymous

Lease, M., Hullman, J., Bigham, J.P., Bernstein, M.S., Kim, J., Lasecki, W.S., Bakhshi, S., Mitra, T., and Miller, R.C. Social Science Research Network 2013. Rank: 8,366/882,206

— Popular Press Articles

Aug. 2021 States Are Suing the Census Bureau Over Its Attempts to Make Data More Private

Nanayakkara, P., and Hullman, J.

Slate Future Tense. https://slate.com/technology/2021/08/census-bureaudifferential-privacy-lawsuit.html

Sept. 2020 There's More Than Meets the Eye in 2020 Election Forecasts

Hullman, J.

The Hill.

https://thehill.com/opinion/campaign/515291-theres-more-than-meets-the-eye-in-2020-election-forecasts

Aug. 2020 If you want more women in your workforce, here's how to recruit

Pierson, E., Redmiles, E., Battle, L., and Hullman, J.

Nature Careers. https://www.nature.com/articles/d41586-020-02489-w

Aug. 2020 Is Your Chart a Detective Story or a Police Report?

Gelman, A. and Hullman, J.

WIRED. https://www.wired.com/story/is-your-chart-a-detective-story-or-a-police-report/

Aug. 2020 We Need Better Risk Communication to Combat the Coronavirus

Schrager, A. and Hullman, J.

National Review.

https://www.nationalreview.com/2020/08/coronavirus-betterrisk-communication-needed-combat-pandemic/

Apr. 2020 Leading with Unknowns in COVID 19 Model Results

Hullman, J.

Scientific American Blog.

https://blogs.scientificamerican.com/observations/leading-with-the-unknowns-in-covid-19-models/

Sept. 2019 Confronting Unknowns: How to Interpret Common Visualizations of Uncertainty

Hullman, J.

Scientific American. https://www.scientificamerican.com/article/how-to-get-better-atembracing-unknowns/

Workshops Organized

2024 Statistical Frontiers in LLMs and Foundation Models

Angelopoulos, A., Bates, S., D'Amour, A., Hashimoto, T., **Hullman, J.**, and Yang. F. Workshop at NeurlPS 2024.

2024 Theoretical Foundations of Human-Al Complementarity

Organized with Jason Hartline

IDEAL Institute Special Quarter on Interpretability, Privacy, & Fairness

2024 Trust and Reliance in Evolving Human-Al Workflows (TREW)

Bansal, G., Bucina, Z., Wu, T., Smith-Renner, A., Ashktorab, Z., Holstein, K., Zhang, W., and Hullman, J. Workshop at ACM CHI 2024

2023 Trust and Reliance in Al-Augmented Tasks (TRAIT)

Bansal, G., Smith-Renner, A., Bucina, Z., Wu, T., Holstein, K., **Hullman, J.**, and Stumpf, S. Workshop at ACM CHI 2023

2022 Trust and Reliance in Human-Al Teams (TRAIT)

Bansal, G., Smith-Renner, A., Bucina, Z., Wu, T., Holstein, K., **Hullman, J.**, and Stumpf, S. Workshop at ACM CHI 2022

2021 Chart Question Answering

Haehn, D., Franconeri, S., **Hullman, J.**, Kriegeskorte, N., and Pfister, H. Workshop at CVPR 2021

2019 EVIVA ML: Evaluation of Interactive Visual Machine Learning

Boukhelifa, N., Bezerianos, A., Bertini, E., Collins, C., Drucker, S., **Hullman, J.**, and Sedlmair, M. Workshop at IEEE VIS 2019

2019 HCI for Accurate, Impartial and Transparent Journalism: Challenges and Solutions

Aitamurto, T., Annany, M., Anderson, C., Birnbaum, L., Diakopoulos, N., Hansen, M., Hullman, J., Ritchie, N. Workshop at ACM CHI 2019

2017 Designing for Uncertainty: When Does Uncertainty Help?

Greis, M., Hullman, J., Correll, M., Kay, M., and Schaer, O. Workshop at ACM CHI 2017

2011 Telling Stories with Data: The Next Chapter

Diakopolous, N., DiMicco, J., **Hullman, J.**, Karhalios, K., and Perer, A. Workshop at IEEE InfoVis 2011

Invited Keynote Presentations

Oct. 2024 Benchmarking Visualization for Decision-Making

Keynote at 2024 Conference on Digital Experimentation (CODE @MIT). Boston, MA.

Oct. 2024 The Meaning of Quantified Uncertainty is its Use

Capstone at Uncertainty Visualization Workshop at IEEE VIS 2024. St. Petersburg, FL.

June 2024 Data Analysis and Imagination

Keynote at Theory & Methods Fortnights, Alan Turing Institute. London, UK.

Mar. 2024 Graphical Tools for Hypothesizing about Effects

Keynote at Visualizing Biological Data (VIZBI). Los Angeles, CA.

Oct. 2022	Toward Robust Communication of Modeling Results (for Prediction or Explanation) Keynote at Conference on Non-traditional Data, Natural Language Processing, & Machine Learning. Organized by Sveriges Riksbank, U.S. Federal Reserve Board, and Bank of Italy. Stockholm, Sweden.
July 2021	Theories of Inference for Visualization Interactions Keynote at BioVIS Workshop, co-located with ISMB.
Oct. 2020	Interactive Analysis Needs Theories of Inference Keynote at Visualization in Data Science (VDS) Workshop, Co-located with IEEE VIS.
June 2020	Why Interactive Analysis Needs Theories of Inference Keynote at Human-in-the-loop Data Analysis Workshop, Co-located with SIGMOD.
Dec. 2019	Supporting Reasoning with Uncertainty with Data Visualization Keynote at Data Science and Visualization Symposium. University of Miami.
Nov. 2019	How to Visually Communicate Uncertain Data Keynote at Conference on Global Risk, Uncertainty, & Volatility. Organized by U.S. Federal Reserve Board, Swiss National Bank, and Bank of Canada. Zurich, Switzerland.
2016	Storytelling with Visualization Keynote at Tapestry Conference. Organized by Tableau Software.
	Invited Presentations
Aug. 2024	Benchmarking Human-Al Performance Human Centered Machine Learning Workshop. Apple. Cupertino, CA.
July 2024	The Meaning of Quantified Uncertainty is its Use Workshop on Individualized Prediction. UC Berkeley. Berkeley, CA.
June 2024	Opening the Human Blackbox in Model Assisted Decisions BIRS Workshop on Bridging Prediction & Intervention Problems in Social Systems. Banff, CAN.
Mar. 2024	Data Visualization for Inference: Opportunities and Challenges Health Data Science Distinguished Speaker Series. Boston University Biostatistics.
Feb. 2024	Strategic visualization of uncertainty Workshop on Advancing Risk Communication with Decision-Makers for Tropical Cyclones. National Academies of Science, Engineering, & Medicine (NASEM). Washington D.C.
Jan. 2024	Hypothesizing about effects in experiment design and interpretation Toyota Technological Institute at Chicago (TTIC).
Sept. 2023	Evaluating Visualizations for Inference and Decision-Making Department of Statistics Colloquium, Columbia University.
May 2023	Toward Robust Data Visualization for Inference Distinguished Data Science Lecture, Cornell University.
May 2023	Toward Robust Data Visualization for Inference Computer Science Seminar, University of Illinois–Urbana Champaign.
Feb. 2023	Using theories of decision-making under uncertainty to improve data visualization Behavioral Economics Seminar, Booth School of Business, University of Chicago.
Jan. 2023	Navigating Privacy-Utility Trade-offs in Public Data Institute for Policy Research, Northwestern University.

Nov. 2022	Using theories of decision-making under uncertainty to improve data visualization Simon's Institute at the University of California Berkeley.
Nov. 2022	Improving the robustness of data visualization for trustworthy inference University of California Berkeley iSchool Distinguished Lecture Series.
Nov. 2022	Toward Robust Visualization for Inference Scientific Computing & Imaging Institute (SCI) Seminar, University of Utah.
Oct. 2022	Visualizing Privacy-Utility Trade-offs in Differentially Private Data Releases Microsoft Research Summit.
July 2022	The Worst of Both Worlds: A Comparative Analysis of Errors in Learning from Data in Psychology and Machine Learning Princeton Workshop on Reproducibility in Machine Learning.
June 2022	Better Visualizations for Model Checks International Society for Bayesian Analysis World Meeting, Montreal, CA.
Mar. 2022	Visualizations as Model Checks Martin Zelen Memorial Symposium, Harvard University Department of Biostatics.
Mar. 2022	Strategic Communication of Uncertainty Meeting of the Presidential Council of Advisors on Science and Technology.
Dec. 2021 Nov. 2021 June 2021 Apr. 2021 Dec. 2020 Nov. 2020	Theories of Inference for Data Interactions Stanford HCI Seminar. University of California—San Diego Data Science Seminar. Bayes Webinar, Hosted by Generable. Cornell Behavioral Economics and Decision Research Center (BEDR) DREAM Lab, University of Massachusetts—Amherst. CMU HCII Seminar, Carnegie Mellon University.
Jan. 2021	Supporting Reasoning with Uncertainty with Data Visualization New York City Data Viz Meetup.
Oct. 2020 Sept. 2020	How to Communicate Uncertainty in Forecasts The Centers for Disease and Control (CDC). After Dark Online Series, San Francisco Exploratorium.
June 2020 May 2020	Beyond Visualization: Improving Reasoning Under Uncertainty from Data Dept. of Risk and Insurance, University of Wisconsin–Madison. Marketing Dept., Leeds School of Business, University of Colorado–Boulder.
Dec. 2019	Supporting Reasoning with Uncertainty with Data Visualization Washington Post, Washington D.C.
June 2019	Seeing What We (Should) Think Through Visualization Interaction Chicago Data Vis Meetup, Chicago, IL.
May 2019	Improving Inference and Decision Making from Visualized Data Lawrence Dumas Domain Dinner, Northwestern University, Evanston, IL.
Apr. 2019 Mar. 2019	Supporting Reasoning with Uncertainty with Data Visualization Biostats Seminar, Feinberg School of Medicine, Northwestern University, Chicago, IL. Michigan Interactive and Social Computer Seminar (MISC), University of Michigan, Ann Arbor, MI.
Mar. 2019	Interactive Visualization for News Readers' Beliefs: Why and How (with Yea-Seul Kim) NICAR 2019 Invited Session, Newport Beach, CA.

Feb. 2019	Seeing What We (Should) Think Through Visualization Interaction Medill Faculty Colloquium, Northwestern University, Evanston, IL.
Jan. 2019 Dec. 2018 Nov. 2018	Supporting Reasoning About Uncertainty Through Data Visualization Scientific Computing & Imaging Institute, University of Utah, Salt Lake City, UT. NORC at the University of Chicago, Chicago, IL. Neubauer Collegium, University of Chicago, Chicago, IL.
Oct. 2018	Seeing What We (Should) Think Through Visualization Interaction MIT CSAIL HCI Seminar, Boston, MA.
June 2018	Interrogating Shared Representations in Mixed Initiative Systems Invited discussant for Jeff Heer's presentation on Agency & Automation HCIC, Watsonville CA.
2018	Improving Data Reasoning Through Visualization and Automation Northwestern University Computer Science CS+X Seminar.
2017	Reconciling Single Vs. Multiple View Criteria in InfoVis (with Zening Qu) Tableau Software, Seattle, WA.
2017	Seeing What We Think Through Visualization Interaction Northwestern University Technology & Social Behavior Series Distinguished Lecture.
2016	Visualization Tools for Improving Reasoning with Data Microsoft Research, New York City, NY.
2016	The Visual Uncertainty Experience OpenVis.
2016	Data-Driven Storytelling Daghstuhl seminar.
2015	Uncertainty Visualization NSF seminar on Hazard Mapping at University of Washington.
2015	Making Sense of Scales with a Database of Measurements Design Use Build (DUB) seminar at University of Washington.
Oct. 2014	Tools for Understanding and Repurposing Visualized Data (with Maneesh Agrawala) Tableau Software, Seattle, WA.
July 2014 June 2014	Anticipating Context in Designing Visualizations for Communication Adobe, San Francisco, CA. Tableau Software, Seattle, WA.
May 2014 Mar. 2014 Feb. 2014 Feb. 2014	Understanding and Supporting Design Trade-offs for Visualization-based Communication Dept. of Computer Science, Stanford University. School of Interactive Computing, Georgia Tech. School of Information, University of Washington. Dept. of Cognitive Science, University of California–San Diego. Dept. of Computer Science, University of Minnesota.
Jan. 2014	Dept. of Computer Science at the University of Colorado–Boulder.
Apr. 2013	Social and Contextual Visualizations (with Eytan Adar) Gale Cengage Learning, Farmington Hills, MI.
Nov. 2012	Letting the Data (and People) Speak: Visualization as Communication and Analysis Tableau Software, Seattle, WA.

Oct. 2012 Visualization as Communication and Analysis

Design Use Build (DUB) seminar at University of Washington.

Aug. 2011 Implications of the Crowd in Collaborative Visual Analytics

HCI Lab at Tufts University Dept. of Computer Science, Cambridge, MA.

June 2011 Presenting Social Information Online: Evidence of Effects on Visual Judgments

IBM Collaborative User Experience Research Lab (CUE), IBM T.J. Watson Research Center, Cambridge, MA.

Oct. 2010 Visual Stories: Adapting Narratology for InfoVis

F. I. R. S. T. (Featured Information Research Student Talks), University of Michigan School of Information.

Invited Panels & Interviews

2024 Frameworks for Evaluating Individual Decisions

Panelist at Workshop on Individualized Prediction.

Berkeley, CA.

Organizer/Moderator: Ben Recht.

2024 Clinical versus Statistical Prediction

Panelist at BIRS Workshop on Bridging Prediction & Intervention in Social Systems.

BIRS, Banff, CA. Moderator: Deb Raji.

2024 Communicating Uncertainty and Probabilistic Information about TC Tracks, Timing

and Severity

Panelist at Workshop on Advancing Risk Communication with Decision-Makers for Tropical Cyclones

National Academies of Science, Engineering, & Medicine (NASEM).

Moderator: Ann Bostrom. Panelists: Lace Padilla.

2023 Manifestation of Gender and Intersectional Bias in Artificial Intelligence

Panelist at Northwestern Pritzker School of Law Conference on Gender and Intersectional Bias

in Artificial Intelligence

Moderator: Dan Linna. Panelists: Hammond, K., Rahman, H., Worsley, M.

2023 ChatGPT and Generative Artificial Intelligence

Panelist at Northwestern Center for Advancing Safety of Machine Intelligence

Moderator: Kris Hammond. Panelists: David Leake, Ben Lorica.

2022 Future Paths

Panelist at Princeton Workshop on Reproducibility in Machine Learning

Moderator: Arvind Narayanan. Panelists: Hofman, I., Stewart, B.

2021 CDC ERASE Maternal Mortality Workshop

Panelist

Moderator: Amanda Makulec. Panelists: Fowlers, A., Schwabish, J.

2021 CDC Data Visualization Day

Panelist

Moderator: Amanda Makulec. Panelists: Burn-Murdoch, J., Meeks, E.

2020 Communicating uncertainty

Panelist at Computation+Journalism 2020

Moderator: Alberto Cairo. Panelists: Christiansen, J., D'Ignazio, C.

2020 Uncertainty Representations

Interview with Data Skeptic podcast, Interpretability series https://dataskeptic.com/blog/episodes/2020/uncertainty-representations

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Interview with Data Skeptic podcast, Interpretability series https://dataskeptic.com/blog/episodes/2020/uncertainty-representations

2019 The State-of-the-Art and Future of Uncertainty Visualization

Panel organizer/chair at Joint Statistical Meetings of the American Statistical Association (JSM)

Panelists: Kay, M., Kirby, M., and Padilla, L.

2019 What Makes a Successful Data Visualization

Panelist at Joint Statistical Meetings of the American Statistical Association (JSM)

Moderator: Du Toit, N. Panelists: Fingerson, L., Robbins, N. and Tyner, S.

2019 Visualizing Uncertainty with Jessica Hullman and Matthew Kay

Interview with Data Stories Podcast

http://datastori.es/134-visualizing-uncertainty-with-jessica-hullman-and-matthew-kay/

2018 IEEE VIS 2018 Highlights with Jessica Hullman and Robert Kosara

Interview with Data Stories Podcast

https://datastori.es/130-highlights-from-ieee-vis-2018/

2018 Data Visualization in Psychology: Some Principles and Practices

Panelist at Conference of the Association of Psychological Science (APS)

Moderator: Kevin Lanning. Panelists: Tverksy, B., Wickham, H.

2017 IEEE VIS 2017 Highlights with Jessica Hullman and Robert Kosara

Interview with Data Stories Podcast

http://datastori.es/108-review-of-ieee-vis17-with-jessica-hullman-and-robert-kosara/

2016 IEEE VIS 2016 Highlights with Jessica Hullman and Robert Kosara

Interview with Data Stories Podcast

http://datastori.es/86-highlights-from-ieee-vis I 6-with-jessica-hullman-and-robert-kosara/

2016 How Can We Improve Empirical Research on Understanding Visual Information?

Panelist at IEEE InfoVis 2016

Moderator: Pierre Dragicevic. Panelists: Haroz, S., Kay, M., Rensink, R.

2016 Critical Visualization

Panelist at IEEE InfoVis 2016

Moderator: Angus Forbes. Panelists: Offenhuber, D., Paris-Westbrook, J., Trowbridge, A.

2015 The Art and Science of Data Visualization

Panelist at University of Washington eScience

Panelists: Heer, J., Howe, B.

Narrative Visualization Research with Jessica Hullman

Interview with Data Stories Podcast

http://datastori.es/ds40-narrative-vis-research-w-jessica-hullman/

— Teaching

Northwestern University, Evanston, IL.

Instructor and creator

2023–2024 CS 497: Explanation and Reproducibility in Data-Driven Science

2019– CS 396/496: Interactive Information Visualization

2018–2021 JOUR 474: Data Analysis & Communication for Journalists

Instructor

2021- CS 401: Introduction to Graduate Studies in Computer Science

2015–2018 2015–2018	The University of Washington, Seattle, WA Instructor and creator INFO 474: Interactive Information Visualization INFX 562: Interactive Information Visualization
2014	The University of California, Berkeley, CA Co-instructor (with M. Agrawala) CS294-10: Visualization
2011 2011 2007 2007–2008 2006–2007	The University of Michigan, Ann Arbor, MI Graduate Student Instructor SI 649/749: Information Visualization SI 508/708: Networks: Theory and Application Russian 347 Russian 348 English 367
_	Current Ph.D. Students
2024-	Chair. Dawei Xie. Ph.D. student, Northwestern University Computer Science.
2023-	Chair. Kelly Jiang. Ph.D. student, Northwestern University Computer Science.
2023-	Co-chair. Negar Kamali. Ph.D. student, Northwestern University Computer Science.
2022-	Chair. Ziyang Guo. Ph.D. student, Northwestern University Computer Science.
2019-	Co-chair. Abhraneel Sarma. Ph.D. student, Northwestern University Computer Science.
2019-	Co-chair. Paula Kayongo. Ph.D. student, Northwestern University Computer Science.
_	Former Ph.D. Students & Committees
2024	Former Ph.D. Students & Committees Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior.
2024 2024	
	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior.
2024	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science.
2024 2024	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior.
2024 2024 2022	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School.
2024 2024 2022 2020	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School.
2024 2024 2022 2020 2024	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School. Committee member. Lukas Lazarek. Ph.D. student, Northwestern University Computer Science.
2024 2024 2022 2020 2024 2022	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School. Committee member. Lukas Lazarek. Ph.D. student, Northwestern University Computer Science. Committee member. Ethan Manilow. Ph.D. student, Northwestern University Computer Science. Committee member. Younghoon Kim. Ph.D. student,
2024 2024 2022 2020 2024 2022 2020	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School. Committee member. Lukas Lazarek. Ph.D. student, Northwestern University Computer Science. Committee member. Ethan Manilow. Ph.D. student, Northwestern University Computer Science. Committee member. Younghoon Kim. Ph.D. student, University of Washington Computer Science & Engineering Committee member. Daniel Epstein. Ph.D. student,
2024 2024 2022 2020 2024 2022 2020	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School. Committee member. Lukas Lazarek. Ph.D. student, Northwestern University Computer Science. Committee member. Ethan Manilow. Ph.D. student, Northwestern University Computer Science. Committee member. Younghoon Kim. Ph.D. student, University of Washington Computer Science & Engineering Committee member. Daniel Epstein. Ph.D. student, University of Washington Computer Science & Engineering Committee member. Ray Hong. Ph.D. student,
2024 2024 2022 2020 2024 2022 2020	Chair. Priyanka Nanayakkara. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Hyeok Kim. Ph.D. student, Northwestern University Computer Science. Chair. Dongping Zhang. Ph.D. student, Northwestern University Technology & Social Behavior. Chair. Alex Kale. Ph.D. student, University of Washington Information School. Chair. Yea-Seul Kim. Ph.D. student, University of Washington Information School. Committee member. Lukas Lazarek. Ph.D. student, Northwestern University Computer Science. Committee member. Ethan Manilow. Ph.D. student, Northwestern University Computer Science. Committee member. Younghoon Kim. Ph.D. student, University of Washington Computer Science & Engineering Committee member. Daniel Epstein. Ph.D. student, University of Washington Computer Science & Engineering Committee member. Ray Hong. Ph.D. student, University of Washington Human-Centered Design & Engineering

	Conference Organization
2023	ACM FAccT, Program Chair
2022	IEEE VIS, Posters Chair
2021	Computation+Journalism, General Chair
2020–2021	IEEE VIS, Organizing Committee: Tutorials Chair
2020 2019	Computation+Journalism, Program Chair IEEE VIS, Organizing Committee: Community Chair
2017;	Program Committees ICLR 2024, IEEE VIS 2021, 2020; ACM CHI 2019; IEEE InfoVis 2019, 2018, 2016; EuroVis S.T.A.R. 2018
2017,	HILDA 2017, 2018; Computation+Journalism 2016, 2017, 2018; BELIV 2016; ACM UIST 2015
	Institutional Service
2024	Chair, Ph.D. Admissions. Northwestern University Computer Science.
2024	Ginni Rometty Chair Committee. Northwestern University Computer Science.
2023	Faculty Hiring Committee. Northwestern University Computer Science.
2021, 2019	Ph.D. Admissions Committee. Northwestern University Technology & Social Behavior.
2019–2022	Strategic Planning Committee. Northwestern University Computer Science.
2018–2019	Curriculum Committee. Northwestern University Journalism.
2017–2018	Open Faculty Search Committee. University of Washington Information School.

Data Science Lecturer Search Committee (Chair). University of Washington Information School.

Admissions Committee. University of Washington Information School.

2016-2017

2016-2018