

Abhraneel Sarma

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Education

- June 2025 (expected) **PhD, Computer Science, Northwestern University**
Advisors: Matthew Kay, Jessica Hullman
- 2019-2021 **Master of Science, Computer Science, Northwestern University**
Advisors: Matthew Kay, Jessica Hullman
- 2018 **Master of Science, Information, University of Michigan**
Advisor: Matthew Kay
- 2016 **Bachelors in Design, Indian Institute of Technology Guwahati**
Minor in Mechanical Engineering

Awards and Honors

Papers

- 2024 **Best Paper Honorable Mention** for “Opportunities, tensions ...”, ACM DIS
- 2024 **Best Paper Honorable Mention** for “Odds and Insights ...”, ACM CHI
- 2023 **Best Paper Honorable Mention** for “multiverse ...”, ACM CHI
- 2022 **Best Paper Honorable Mention** for “Evaluating the use of ...”, IEEE VIS
- 2019 **Best Paper Award** for “Increasing the Transparency of ...”, ACM CHI

Other Activities

- 2021-2024 **Special Recognitions for Outstanding Reviews** (three), ACM CHI

Publications

Peer-reviewed Full-length Conference and Journal Articles

- C9 2024 **The multiverse of universes: A tutorial to plan, execute, and interpret multiverses analyses using the R package multiverse** [DOI](#)
Martin Götz, [Abhraneel Sarma](#) and Ernest O’Boyle
International Journal of Psychology
- C8 2024 **Opportunities, tensions, and challenges in computational approaches to addressing online harassment** [DOI](#)
Evey Huang, [Abhraneel Sarma](#), Sohyeon Hwang, Eshwar Chandrasekharan and Stevie Chancellor
Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS)
Best Paper Honorable Mention
- C7 2024 **Odds and Insights: Decision Quality in Exploratory Data Analysis Under Uncertainty** [DOI](#)
[Abhraneel Sarma](#), Xiaoying Pu, Yuan Cui, Eli T Brown, Michael Correll and Matthew Kay
Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
Best Paper Honorable Mention

- C6 2024 **Milliways: Taming Multiverses through Principled Evaluation of Data Analysis Paths** [DOI](#)
[Abhraneel Sarma](#) , Kyle Hwang, Jessica Hullman and Matthew Kay
 Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
- C5 2023 **multiverse: Multiplexing Alternative Data Analyses in R Notebooks** [DOI](#)
[Abhraneel Sarma](#) , Alex Kale, Michael Moon, Nathan Taback, Fanny Chevalier, Jessica Hullman and Matthew Kay
 Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
Best Paper Honorable Mention
- C4 2022 **Evaluating the Use of Uncertainty Visualisations for Imputations of Data Missing At Random in Scatterplots** [DOI](#)
[Abhraneel Sarma](#) , Shunan Guo, Jane Hoffswell, Ryan Rossi, Fan Du, Eunyee Koh and Matthew Kay
 IEEE Transactions on Visualization and Computer Graphics (proc. VIS 2022)
Best Paper Honorable Mention
- C3 2021 **An automated approach to reasoning about task-oriented insights in responsive visualization** [DOI](#)
 Hyeok Kim, Ryan Rossi, [Abhraneel Sarma](#) , Dominick Moritz and Jessica Hullman
 IEEE Transactions on Visualization and Computer Graphics (proc. VIS 2021)
- C2 2020 **Prior Setting in Practice: Strategies and Rationales Used in Choosing Prior Distributions for Bayesian Analysis** [DOI](#)
[Abhraneel Sarma](#) and Matthew Kay
 Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
- C1 2019 **Increasing the Transparency of Research Papers with Explorable Multiverse Analyses** [DOI](#)
 Pierre Dragicevic, Yvonne Jansen, [Abhraneel Sarma](#) , Matthew Kay and Fanny Chevalier
 Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)
Best Paper Award

Preprints and Working Manuscripts

- M1 2024 **More 'Pacas, More Problems: How Uncertainty Representations for Multiple Forecasts Impact Decision Making**
[Abhraneel Sarma](#) , Maryam Hedayati and Matthew Kay
 Under Review at ACM CHI

Workshops and Lightly-Reviewed Articles

- W2 2024 **Tasks and Telephones: Threats to Experimental Validity due to Misunderstandings of Visualisation Tasks and Strategies**
[Abhraneel Sarma](#) , Sheng Long, Michael Correll and Matthew Kay
 evaluation and BEyond - methodoLogIcal approaches for Visualization (BELIV) Workshop at IEEE VIS
- W1 2019 **Interactive Visualizations Tools for Prior Setting In Bayesian Analysis: Challenges For Evaluation**
[Abhraneel Sarma](#) and Matthew Kay
 Workshop on Human-Centered Study of Data Science Work Practices at ACM CHI

Work Experience

- 2019- **Graduate Research Assistant**
MUCollective, Northwestern University
- 2023 **Research Intern**
Microsoft Corp.
Mentors: Jake Hofman, Dan Goldstein
- 2021 **Research Intern**
Adobe, Inc
Mentor: Shunan Guo
- 2016-2019 **Graduate Research Assistant (full time, May 2018 onwards)**
MUCollective, University of Michigan
- 2017 **User Experience Intern**
Office of Academic Innovation, University of Michigan
- 2015 **Undergraduate Research Intern**
Keio-NUS CUTE Center, National University of Singapore

Teaching

Conference Courses

- 2022, 2023 **Transparent Practices for Quantitative Empirical Research**
Co-instructors: Chat Wacharamanatham, Fumeng Yang, Xiaoying Pu, Lace Padilla, Maryam Hedayati (this is a lecture series with rolling instructors).
ACM CHI 2022 (online); 22 attendees
ACM CHI 2023 (hybrid); 6 attendees
IEEE VIS 2023 (in-person); 8 attendees

Teaching Assistantship

- 2020 **Teaching Assistant, JOUR377 Data Analysis and Visualization**
Northwestern University
- 2018 **Graduate Student Instructor, SI330 Data Manipulation in Python**
University of Michigan
- 2017 **Graduate Student Instructor, SI588 Fundamentals of Human Behavior**
University of Michigan

Mentoring

Northwestern University

- 2024- **Sheng Long**, PhD student, co-mentored with Matthew Kay
- 2024- **Dawei Xie**, PhD student, sub-mentored with Jessica Hullman
- 2024- **Mandi Cai**, PhD student, informal research mentoring
- 2021-2023 **Kyle Hwang**, undergraduate student for “Milliways ...”
- 2022 **Philip Clement**, undergraduate student for “Milliways ...”

Service

Program Committee

2024- Journal of Visualization and Interaction, Open Practices Chair

Paper Reviews

2024 The ACM Symposium on User Interface Software and Technology (UIST)
2024 Information Visualization
2023 IEEE Transactions on Visualization and Computer Graphics (TVCG)
2022 Workshop on TRust and EXpertise in Visualization (TREX VIS)
2021-2023 IEEE Visualization and Visual Analytics Conference (VIS)
2021-2024 The ACM Conference on Human Factors in Computing Systems (CHI)

Student Volunteering

2017-18 IEEE Visualization and Visual Analytics Conference (VIS)

Invited Talks

2021 **Using the multiverse R package for Sensitivity Analysis**
Department of Engineering Sciences and Applied Mathematics, Northwestern University

2019 **Statistics and Scientific reporting: Can we do better?**
ICOS Big Data Summer Camp, University of Michigan