Sneha Gathani

5th year PhD Candidate in Computer Science

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RESEARCH INTERESTS

Data-Driven Decision-Making Systems, Interactive Data and Visual Analytics Systems, Business Analytics and Decision-Making

EDUCATION

PhD in Computer Science, *University of Maryland, College Park, GPA: 3.77/4.* — *College Park, US*
Advisor: *Leo Zhicheng Liu* — *June 2020 – May 2025 (expected)*

Masters in Computer Science, *University of Maryland, College Park, GPA: 3.77/4.* — *College Park, USA*
Advisor: *Leilani Battle* — *Aug 2018 – May 2020*

PUBLICATIONS

CHI 2025 Paper	P.6	**What-If Analysis for Business Users: Current Practices and Future Opportunities** **Sneha Gathani,** Zhicheng Liu, Peter J. Haas, Çağatay Demiralp
VIS 2024 Paper | Talk	P.5	**Groot: A System for Editing and Configuring Automated Data Insights** **Sneha Gathani,** Anamaria Crisan, Vidya Setlur, Arjun Srinivasan
EuroVis 2022 Paper | Talk	P.4	**A Grammar-Based Approach for Applying Visualization Taxonomies to Interaction Logs** **Sneha Gathani,** Shayan Monadjemi, Alvitta Ottley, Leilani Battle
CIDR 2022 Paper | Talk	P.3	**Augmenting Decision Making via Interactive What-If Analysis** **Sneha Gathani,** Madelon Hulsebos, James Gale, Peter J. Haas, Çağatay Demiralp
CIDR 2022 1-page abstract	P.2	**Making Table Understanding Work in Practice** Madelon Hulsebos, **Sneha Gathani,** James Gale, Isil Dillig, Paul Groth, Çağatay Demiralp
CHI 2020 Full paper | Talk	P.1	**Debugging Database Queries: A Survey of Tools, Techniques, and Users** **Sneha Gathani**, Peter Lim, Leilani Battle

WORK EXPERIENCE

Microsoft Research — *Seattle, USA*
Research Intern, Mentor: *Steven Drucker,* Also closely worked with multiple product teams at Microsoft — *Summer 2024*

Recommend-o-Matic: Facilitating Analysts Create Interactive Explanations of Decisions and their Trade-Offs **Under Progress** ***(Target: UIST 2025)***

Salesforce/Tableau Research — *Seattle, USA*
Research Intern, Mentor: *Arjun Srinivasan* — *Summer 2023*

Groot: A System for Editing and Configuring Automated Data Insights
Developed a prototype system that allows users to proactively **edit, customize, and reconfigure automated data insights** within visualization tools. **Paper:** P.5 ***(VIS 2024)***

Sigma Computing Inc. — *San Francisco, USA*
Research Intern, Mentor: *Çağatay Demiralp* — *Summer, Fall 2021*

Augmenting Decision Making via Interactive What-If Analysis
Delivered Decision Studio, an interactive visual data analysis system that enables business users to **understand input data drivers-output KPI metric relationships** through what-if scenarios using four predictive and prescriptive (PPA) functionalities; validated through three common business uses with Sigma employees. **Paper:** P.3 ***(CIDR 2022)***

RESEARCH

PhD Graduate Research — *UMD, College Park, USA*

Praxa: A Standardized Approach to What-If Analysis — *Fall 2022 – 2024*
Introducing Praxa, **a standardized framework for what-if analysis** and put this into practice using **a declarative language**, Praxa Specification Language. Demonstrated its expressiveness through three diverse application domains. **Under Review:** *TVCG 2025*

What-If Analysis for Business Users: Current Practices and Future Opportunities — *Fall 2021 – 2024*
Conducted two-part interview study with marketing, sales, product, and operations managers to understand their **use of what-if analysis for decision-making** and assess their **hands-on experience** of using functionalities via **Decision Studio, a visual analytics system** as a probe to identify its' future opportunities. **Paper:** P.6 ***(CHI 2025)***

Masters Graduate Research — *UMD, College Park, USA*

A Grammar-Based Approach for Applying Visualization Taxonomies to Interaction Logs — *Summer 2020 – Fall 2021*
Translated and demonstrated the applicability of theoretical visualization task **taxonomies** on empirical interaction logs via developing **programmatic mappings** of taxonomies. **Paper:** P.4 ***(EuroVis 2022)***

TraceInspector: A Visualization-based Reverse Engineering Tool for Android Apps — *Spring 2019 – 2020*
Developed TraceInspector, an interactive visualization tool that helps novice analysts **reverse engineer Android apps** for potential security and privacy vulnerabilities.

Debugging Database Queries: A Survey of Tools, Techniques and Users — *Summer 2019*
Performed interdisciplinary literature review and conducted interview study to **understand database query debugging strategies and tools**. **Paper:** P.1 ***(CHI 2020)***