# Arjun Srinivasan

🌐 http://arjun010.github.io/ • ✉ arjun.srinivasan.10@gmail.com • 📅 Last updated: Feb 2025

**SUMMARY**

I am a **human-computer interaction researcher specializing in multimodal and mixed-initiative user interfaces**. My current research focuses on designing expressive and intelligent tools for human-data interaction.

**EDUCATION**

**Georgia Institute of Technology**, Atlanta, Georgia, USA
- Ph.D. in Computer Science                                                              Aug 2016 – Jul 2020
  Thesis: "Combining Natural Language and Direct Manipulation for Human-Data Interaction through Visualizations" [🏆 **IEEE VGTC Best Dissertation Award**]

  Research areas: Human-Computer Interaction, Information Visualization
  Advisor: Dr. John Stasko
- M.S. in Computer Science                                                                Aug 2014 – May 2016
  Specialization: Visual Analytics

**R.V. College of Engineering**, Bangalore, Karnataka, India
- B.E. in Information Science                                                             Aug 2009 – Jun 2013

**EXPERIENCE**

**Salesforce**, Seattle, Washington, USA

*Lead Research Scientist*                                                                 Jan 2024 – Present

Working on conversational analytics and agentic experiences within Tableau Einstein and Data Cloud.

**Databricks**, Seattle, Washington, USA

*Software Engineer*                                                                      Dec 2023 – Dec 2024

Working on interactive visual querying and natural language-based chart authoring features in Databricks AI/BI.

**Tableau Research**, Seattle, Washington, USA

*Senior Research Staff*                                                                   Oct 2020 – Dec 2023

Conducted research on human-computer interaction and information visualization.

- Filed 15+ patents and published 10+ research papers in the areas of natural language & multimodal interaction, accessibility, and visualization recommendation.

- Built prototypes and conducted user research to inform query and recommendation features in Einstein Copilot for Tableau (blog) and accessibility-focused features including alt-text generation (release note) and keyboard-based chart navigation (blog).

**Microsoft Research**, Redmond, Washington, USA

*Research Intern*, Mentor: Dr. Bongshin Lee                                               May 2019 – Aug 2019

Developed multimodal interfaces for data visualization with the EPIC (Extended Perception, Interaction & Cognition) Research Group.

**Adobe Research**, Seattle, Washington, USA

*Research Intern*, Mentor: Dr. Mira Dontcheva                                             May 2018 – Aug 2018

Explored user interface techniques to enhance discoverability of speech input in multimodal interfaces.

**Microsoft Research**, Redmond, Washington, USA

*Research Intern*, Mentor: Dr. Steven Drucker                                             May 2017 – Aug 2017

Designed and evaluated techniques to facilitate visual comparison in data visualization dashboards.

**Salesforce**, San Francisco, California, USA

*Software Engineering Intern,* Analytics Cloud                    May 2015 – Aug 2015, May 2016 – Aug 2016

Developed a visualization system for real-time monitoring and diagnosis of service queues across data centers in a multi-tenant cloud architecture.

**SAP Labs**, Bangalore, Karnataka, India

*Associate Developer,* SAP HANA Cloud Integration                    Jul 2013 – Apr 2014

Worked on R&D of Business Process Integration solutions on the cloud.

**PUBLICATIONS**          **JOURNAL/ CONFERENCE**

A. Srinivasan, V. Setlur, and A. Satyanarayan. "PLUTO: Authoring Semantically Aligned Text and Charts for Data-Driven Communication" *ACM Conference on Intelligent User Interfaces (IUI),* 2025.

A. Srinivasan, T. Harshbarger, D. Hilliker, and J. Mankoff. "Azimuth: Designing Accessible Dashboards for Screen Reader Users." *ACM SIGACCESS Conference on Computers and Accessibility (ASSETS),* 2023. [⚲ **Best Paper Nominee**]

A. Srinivasan and V. Setlur, "BOLT: A Natural Language Interface for Dashboard Authoring." *Proceedings of EuroVis (Short Papers),* 2023.

J. Purich\*, A. Srinivasan\*, M. Correll, L. Battle, V. Setlur, and A. Crisan. "Toward a Scalable Census of Dashboard Designs in the Wild: A Case Study with Tableau Public." *arXiv,* 2023. \*equal contribution.

A. Srinivasan and V. Setlur. "Snowy: Recommending Utterances for Conversational Visual Analysis." *ACM Symposium on User Interface Software and Technology (UIST),* 2021.

A. Srinivasan, N. Nyapathy, B. Lee, S.M. Drucker, and J. Stasko. "Collecting and Characterizing Natural Language Utterances for Specifying Data Visualizations." *ACM Conference on Human Factors in Computing Systems (CHI),* 2021.

A. Narechania\*, A. Srinivasan\*, and J. Stasko. "NL4DV: A Toolkit for Generating Analytic Specifications for Data Visualization from Natural Language Queries." *IEEE Transactions on Visualization and Computer Graphics,* 2021. \*equal contribution.

A. Srinivasan, B. Lee, and J. Stasko. "Interweaving Multimodal Interaction with Flexible Unit Visualizations for Data Exploration." *IEEE Transactions on Visualization and Computer Graphics,* 2020.

A. Srinivasan, B. Lee, N.H. Riche, S.M. Drucker, and K. Hinckley. "InChorus: Designing Consistent Multimodal Interactions for Data Visualization on Tablet Devices." *ACM Conference on Human Factors in Computing Systems (CHI),* 2020 [⚲ **Best Paper Honorable Mention**].

A. Srinivasan, S.M. Drucker, A. Endert, and J. Stasko. "Augmenting Visualizations with Interactive Data Facts to Facilitate Interpretation and Communication." *IEEE Transactions on Visualization and Computer Graphics,* 2019.

A. Srinivasan, M. Dontcheva, E. Adar, and S. Walker. "Discovering Natural Langauge Commands in Multimodal Interfaces." *ACM Conference on Intelligent User Interfaces (IUI),* 2019.

F. Hohman\*, A. Srinivasan\*, S.M. Drucker. "TeleGam: Combining Visualization and Verbalization for Interpretable Machine Learning." *IEEE Visualization Conference (VIS) Short Papers,* 2019. \*equal contribution.

A. Srinivasan and J. Stasko. "Orko: Facilitating Multimodal Interaction for Visual Exploration and Analysis of Networks." *IEEE Transactions on Visualization and Computer Graphics,* 2018.

A. Srinivasan, H. Park, A. Endert, and R. Basole. "Graphiti: Interactive Specification of Attribute-based Edges for Network Modeling and Visualization." *IEEE Transactions on Visualization and Computer Graphics,* 2018.

A. Srinivasan, M. Brehmer, B. Lee and S.M. Drucker. "What's the Difference?: Evaluating Variants of Multi-Series Bar Charts for Visual Comparison Tasks." *ACM Conference on Human Factors in Computing Systems (CHI)*, 2018.

A. Srinivasan and J. Stasko, "Natural Language Interfaces for Data Analysis with Visualization: Considering What Has and Could Be Asked." *Proceedings of EuroVis (Short Papers)*, 2017.

Y. Wang, A. Srinivasan, and Y.S. Kim. "Enabling Tabular Data Exploration for Blind and Low-Vision Users." *ACM Conference on Designing Interactive Systems (DIS)*, 2024.

J. Kim, A. Srinivasan, N.W. Kim, and Y.S. Kim. "Exploring Chart Question Answering for Blind and Low Vision Users." *ACM Conference on Human Factors in Computing Systems (CHI)*, 2023.

V. Setlur, A. Kanyuka, and A. Srinivasan. "Olio: A Semantic Search Interface for Data Repositories." *ACM Symposium on User Interface Software and Technology (UIST)*, 2023.

N. Sultanum and A. Srinivasan. "DataTales: Investigating the use of Large Language Models for Authoring Data-Driven Articles." *IEEE Visualization Conference (VIS) Short Papers*, 2023.

A. Pandey, A. Srinivasan, and V. Setlur. "MEDLEY: Intent-based Recommendations to Support Dashboard Composition." *IEEE Transactions on Visualization and Computer Graphics*, 2022 [♀ **Best Paper Honorable Mention**].

Y.H. Kim, B. Lee, A. Srinivasan, and E.K. Choe. "Data@Hand: Fostering Visual Exploration of Personal Data on Smartphones Leveraging Speech and Touch Interaction." *ACM Conference on Human Factors in Computing Systems (CHI)*, 2021 [♀ **Best Paper Honorable Mention**].

A. Saktheeswaran, A. Srinivasan, J. Stasko. "Touch? Talk? or Touch and Talk? Investigating Multimodal Interaction for Visual Network Exploration and Analysis." *IEEE Transactions on Visualization and Computer Graphics*, 2020.

M. Agarwal, A. Srinivasan, J. Stasko. "VisWall: Visual Data Exploration Using Direct Combination on Large Touch Displays." *IEEE Visualization Conference (VIS) Short Papers*, 2019.

B. Lee, A. Srinivasan, J. Stasko, M. Tory, and V. Setlur. "Multimodal Interaction for Data Visualization." *Workshop at the International Conference on Advanced Visual Interfaces (AVI)*, 2018.

J. Thompson, A. Srinivasan, and J. Stasko. "Tangraphe: Interactive Exploration of Network Visualizations using Single Hand, Multi-touch Gestures." *International Conference on Advanced Visual Interfaces (AVI) Short Papers*, 2018.

R. Basole, A. Srinivasan, H. Park, and S. Patel. "ecoxight: Discovery, Exploration and Analysis of Business Ecosystems using Interactive Visualization." *ACM Transactions on Management Information Systems (TMIS)*, 2018

B. Saket, A. Srinivasan, E. Ragan, and A. Endert. "Evaluating Interactive Graphical Encodings for Data Visualization." *IEEE Transactions on Visualization and Computer Graphics*, 2017.

R. Basole, T. Major, and A. Srinivasan "Understanding Alliance Portfolios using Visual Analytics." *ACM Transactions on Management Information Systems, Vol. 8, No. 2, Article 1*, 2017.

**BOOKS**

B. Lee, A. Srinivasan, P. Isenberg, and J. Stasko. "Post-WIMP Interaction for Information Visualization." *Foundations and Trends® in Human–Computer Interaction*, 2021.

**WORKSHOPS**

A. Srinivasan, B. Lee, and J. Stasko. "Facilitating Spreadsheet Manipulation on Mobile Devices Leveraging Speech." *Data Visualization on Mobile Devices workshop at ACM CHI*, 2018.

SB. Karthik, A. Srinivasan, N. Elmqvist, and J. Stasko. "Affordances of Input Modalities for Visual Data Exploration in Immersive Environments." *IEEE VIS Workshop on Immersive Analytics*, 2017.

R. Basole, T. Major, and <u>A. Srinivasan</u>. "Sequencing the Enterprise Genome: Interactive Visual Analysis of Multi-Dimensional Alliance Activities of Global Enterprises." *business|vis workshop at IEEE VIS*, 2015.

**POSTERS**

A. Das, <u>A. Srinivasan</u>, and J. Stasko. "CricVis: Interactive Visual Exploration and Analysis of Cricket Matches." *IEEE VIS*, 2017.

<u>A. Srinivasan</u>, and J. Stasko. "NL4DV: Toolkit for Natural Language Driven Data Visualization." *IEEE VIS*, 2016.

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|---|---|
| **TECHNICAL SKILLS** | **Programming Languages** |
| | *Experienced with:* JavaScript, Python, TypeScript, HTML/CSS, SQL |
| | *Familiar with:* Java, R |
| | **Libraries/Frameworks** |
| | d3.js, numpy, NLTK, scipy, React, Svelte |

**ACHIEVEMENTS / AWARDS**

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|---|---:|
| VGTC Visualization Dissertation Award. | 2021 |
| Winner of Georgia Tech's CRIDC Poster Competition. | 2020 |
| Georgia Tech College of Computing "Outstanding Graduate Research Assistant" Award. | 2018 |
| Winner of Salesforce.com's Analytics Innovation Challenge. | 2016 |
| National finalist of Walmart's Collegiate Innovators Challenge. | 2014 |
| SAP Global Peer Recognition award. | 2013 |
| Winner of SAP Osmosis. | 2013 |
| National finalist (1st runner-up) of SAP BizTech India. | 2012 |
| Winner of Microsoft India's Windows 8 hackathon. | 2012 |
| National finalist of SAP Dashboard Design Challenge India. | 2011 |

**ACADEMIC SERVICE**

**Organization Committee**

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|---|---:|
| IEEE VIS Workshop on Exploring Opportunities and Challenges for Natural Language Techniques to Support Visual Analysis (NLVIZ) | 2021-Present |
| AVI Workshop on Multimodal Interaction For Data Visualization | 2018 |

**Program Committee**

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|---|---:|
| IEEE Conference on Visualization & Visual Analytics (VIS) | 2022-Present |
| EuroVis | 2022-Present |
| ACM Symposium on User Interface Software and Technology (UIST) | 2022-2023 |
| ACM International Conference on Multimodal Interaction (ICMI) | 2020-2023 |
| ACM Intelligent User Interfaces Conference (Posters and Demos) | 2020 |
| Workshop on Visualization for AI Explainability (VISxAI) at IEEE VIS | 2019-2021 |
| KDD Workshop on Interactive Data Exploration and Analytics (IDEA) | 2018 |

**Reviewer** 2016-Present

IEEE VIS, ACM CHI, ACM UIST, ACM ISS, EuroVis, MobileHCI, ACM ICMI, ACM IUI, IEEE TVCG, IEEE CG&A, INTERACT

**Awarded Special Recognition for Outstanding Reviews**

CHI 2024, CHI 2022, ISS 2020, EuroVis 2019, MobileHCI 2019

**Teaching Assistant**

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|---|---:|
| CS7450 Information Visualization | Fall 2018 |
| CS8803 Data Visualization: Principles & Applications | Spring 2017 |