

Ramik Sadana

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I received my Ph.D. in Computer Science, with a specialization in HCI, from Georgia Tech in May 2017. I have acquired experience in researching and building systems in the areas of data visualization, natural-user interfaces, and ubiquitous computing. I'm deeply interested in helping design the future of human-computer interaction.

Education

- 2012–2017* **Ph.D. CS – Human-Computer Interaction**
Georgia Tech, Atlanta, Georgia
Advisor: John Stasko
Thesis: Data Visualization on Tablet Devices
My research focuses on the intersection of *data visualization* and *natural user interfaces*. I design and build interaction methods for touch devices that support knowledge discovery with data.
- 2010 – 2012* **M.S. Human-Computer Interaction**
Georgia Tech, Atlanta, Georgia
- 2005 – 2010* **M.S. (Integrated) Economics**
Indian Institute of Technology, Kanpur, India

Experience

- July 2017 - now* **Uber Technologies, San Francisco, CA**
Software Engineer (Research)
Leading Uber's core investment in Augmented Reality and Data Visualization on mobile.
- May – Aug 2015* **Tableau Research, Palo Alto, CA**
Research Intern, Mentor: Vidya Setlur
Designed and prototyped an interactive workflow for data cleaning and preparation within tablet-based business intelligence tools.
- May – Dec 2014* **Google Research, Mountain View, CA**
Research Intern, Mentor: Yang Li
Developed an image processing tool for rapidly testing multi-touch interactions with video mockups of sample application behavior.

- May – Aug 2013 Adobe Research, San Jose, CA
Research Intern, Mentor: Bongwon Suh, Eunyee Koh
 Created a system to generate visual summaries of large collections of tweets to extract temporally relevant patterns and anomalies.
- May – Aug 2012 Microsoft Research, Redmond, WA
Research Intern, Mentor: Danyel Fisher, Steven Drucker
 Designed and prototyped a gesture-based and a WIMP-based interface for data-visualization on multi-touch handheld tablets.
- May – Jul 2010 University of Calabria, Italy
 Helped design, build and deploy a mixed media application comprising of 2D and 3D graphical models to enhance the engagement of the public in sites of historical, cultural or archeological significance.
- Jul 2009 – Apr 2010 Technology Lead, Product Development Project,
 Helsinki University of Technology, Finland
 'The Future of Magazines' [sensemag.dy.fi]
 Defined the future global expectations from the print and digital magazines. Identified, designed and developed alternative solutions based on new media.

Publications

Papers

- 2018 [R. Sadana](#), M. Agnihotri, J. Stasko, "*Touching Data: A Discoverability-based Evaluation of a Visualization Interface for Tablet Computers*", [arXiv](#), June 2018
- 2016 [R. Sadana](#), J. Stasko, "*Expanding Selection for Information Visualization Systems on Tablet Devices*", [ISS'16](#), Niagara Falls, Canada, Nov. 2016
- 2016 [R. Sadana](#), V. Setlur, E. Koh, "*Redefining a Contribution for Immersive Visualization Research*", [ISS'16](#), Niagara Falls, Canada, Nov. 2016
- 2016 A. Parnami, A. Gupta, G. Reyes, [R. Sadana](#), Y. Li, G. Abowd, "*Mogeste: mobile tool for in-situ motion gesture design*", [UbiComp'16 Adjunct](#), Heidelberg, Germany, Sep. 2016
- 2016 [R. Sadana](#) and Y. Li, "*Gesture Morpher: Video-based Retargeting of Multi-touch Interactions*", [MobileHCI'16](#), Florence, Italy, Sep. 2016
- 2016 [R. Sadana](#) and J. Stasko, "*Designing Multiple Coordinated Visualizations for Tablets*", [Eurovis'16](#), Groningen, Netherlands, June 2016
- 2014 [R. Sadana](#), T. Major, A. Dove, J. Stasko, "*OnSet: A Visualization Technique for Large-scale Binary Set Data*", [VIS'14](#), Paris, France, Nov. 2014

- 2014 R. Sadana, Y. Kim, B. Suh, E. Koh, "A Visual Analytics Approach to Summarizing Tweets", SIGIR'14 Industry Track, Gold Coast, Australia, July 2014
- 2014 R. Sadana and J. Stasko, "Designing and Implementing an Interactive Scatterplot Visualization for a Tablet Computer", AVI'14, Como, Italy, June 2014
- 2013 Drucker S., D. Fisher, R. Sadana, J. Herron, m. c. schraefel
"TouchViz: A case study comparing two interfaces for Data Analytics on Tablets", CHI '13, Paris, France, May 2013
- 2013 Toth, C., W. Suh, V. Elango, R. Sadana, A. Guin, M. Hunter, and R. Guensler
"Tablet-Based Traffic Counting Application Designed to Minimize Human Error."
Transportation Research Record. National Academy of Sciences. Washington, DC. 2013.
- Posters
- 2013 A. Dai, R. Sadana C. Stolper, J. Stasko, "Hands-On, Large Display Visual Data Exploration", VIS'15, Chicago, IL, Oct. 2015
- 2013 R. Sadana, A. Dove, J. Stasko, "Whale Sharks, Boolean Set Operations, and Direct Manipulation", VIS'13, Atlanta, GA, Oct. 2013
- 2013 R. Sadana and J. Stasko, "Interacting with Data Visualizations on Tablets and Phones: Developing Effective Touch-based Gestures and Operations", VIS'13, Atlanta, GA, Oct. 2013
- 2013 J. Stasko, J. Choo, Y. Han, M. Hu, H. Pileggi, R. Sadana, C. Stolper, "CiteVis: Exploring Conference Paper Citation Data Visually", VIS'13, Atlanta, GA, Oct. 2013

Invited Talks

- 2015 'A Bit About Touch' at OpenVIS 2015, Boston, MA, April 2015
[ramiksadana.com/openvis]
- 2015 'Visualization on Touch Devices' at McGraw Hill Educational Data Meetup, Boston, MA, April 2015
- 2013 'Data + Touch: Explorations and Opportunities' at workshop on 'Mobile and Breaking News: New Challenges for News Information Visualizations', VIS'13, Atlanta, GA, Oct. 2013

Other Projects

- 2016 TouchUndo, Mentors: John Stasko, Gregory Abowd
Research, design and prototyping to identify a standardized shortcut for *undo* and *redo* on touch-devices. [ramiksadana.com/undo]

- 2014 ARubi, Mentors: Gregory Abowd, Thad Starner
Designed a AR+Multitouch environment for in-air cross-device programming.
- 2012 Objects with Memories, Mentor: Gregory Abowd
Used NFC to support digital archiving and retrieval of memories associated with physical artifacts, leveraging and augmenting vision, audition and olfaction.
- 2011 The Third Eye, Mentors: Melody Jackson, Bruce Walker
Created a desktop tool for low-vision computer users that provides quick access to the accessibility features using multi-finger gestures on the touchpads.

Awards

- 2015 Google Faculty Research Award (with advisor John Stasko)
- 2013 – 2014 Adobe Student Research Grant
- 2013 Microsoft Research Alumni Travel Grant
- 2012 Georgia Aquarium Student Grant

Students Mentored

Graduate

- 2015 - 2017 Aakanksha Mirdha, MS HCI
'Expanding Vocabulary of Pressure-based Gestures on Handheld Mobile Devices.'
- 2015 - 2017 Meeshu Agnihotri, MS HCI
'Designing and Conducting User Evaluations for a Data-Visualization System on Tablets'
- 2013 Timothy Major, MS HCI
'Web-based Implementation of the OnSet Visualization System'

Undergraduate

- 2014 - 2016 Andrew Dai, BS CS (Co-supervised with Chad Stolper)
'Large-display, Multitouch Dust & Magnet' (VIS'15 poster)
- 2015 Se Yeon Kim, BS CS
'Web-based Food-Maps for Continental United States.'
- 2014 Vivek Srinivasan, BS CS
'Large-display, Multitouch Visualization System'

Academic Service

- 2015, 2013 Teaching Assistant – CS7450 Information Visualization
- 2011 – 2017 Reviewer – CHI, VIS, EuroVis and UIST
- 2014 Program Committee – ISVC 2014
- 2014 Student Volunteer – Eyeo Festival

2008 – 2009

General Secretary, Media Council, IIT Kanpur

2006 – 2008

Undergraduate Student Mentor, IIT Kanpur

Guest Lectures

2016

CS6452 – Prototyping Interactive Systems

- Introduction to Processing
- Overview of Mobile Interface Prototyping and Development

2015, 2013

CS7450 – Information Visualization

- Introduction to Processing
- Introduction to D3

References

John Stasko, Professor, Georgia Tech

Steven Drucker, Principal Researcher, Microsoft Research

Nicolas Garcia Belmonte, Engineering Lead, Facebook

Vidya Setlur, Researcher, Tableau Research

Gregory Abowd, Professor, Georgia Tech