

# Aditya Vashistha

University of Washington  
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## Research Interests

My research focuses on designing, building, and evaluating social computing platforms for underserved communities in low-resource environments. My research spans social computing, human-computer interaction (HCI), computing for development, and accessibility technology.

## Education

**Ph.D. in Computer Science and Engineering** Sep. 2013 – Jun. 2019 (Exp.)  
University of Washington, Seattle, USA  
Thesis: Social Computing for Social Good in Low-Resource Environments  
Committee: Richard Anderson (Chair), James Fogarty, Kurtis Heimerl, Julie Kientz, and Katharina Reinecke

**M.S. in Computer Science and Engineering** Sep. 2013 – Jun. 2015  
University of Washington, Seattle, USA GPA: 3.9  
Advisors: Gaetano Borriello and Richard Anderson

**B.Tech. in Information Technology** Jul. 2005 – Jun. 2009  
Jaypee Institute of Information Technology, Noida, India GPA: 9.3/10  
**Vice Chancellor's Gold Medal**

## Academic Awards

2018 UW Graduate School Medal Finalist  
2018 CHI Special Recognition for Outstanding Reviews (x 3)  
2017 CHI Special Recognition for Outstanding Reviews (x 3)  
2017 College of Engineering Student Research Award  
2017 ACM CHI Best Paper Honorable Mention Award  
2016-18 Facebook Graduate Fellowship (\$74,000)  
2015 ACM ASSETS Best Student Paper Award  
2015 ACM CHI Best Paper Award  
2014 Tech Challenge Seed Grant from USAID (\$50,000)  
2014 SIGACCESS Scholarship in Computers and Accessibility Award (\$2000)  
2014 Facebook Access Innovation Prize (\$10,000)  
2014 UW Shobe Prize Finalist

- 2013 Manthan Award for IVR Junction – Runner-up
- 2013 Sujal Patel First-Year Graduate Fellowship in Computer Science and Engineering
- 2013 Winner of Tech Challenge for Atrocity Prevention (\$7,000)
- 2013 mBillionth Award for IVR Junction – Special Mention
- 2011 Award of Innovation from Intellectual Property Cell and Infosys Labs
- 2011 Most Promising Debutant in Infosys Labs
- 2010 National Internet Exchange of India (NIXI) Fellowship awarded by the Government of India
- 2009 Vice Chancellor Gold Medal at Jaypee Institute of Information Technology
- 2008 IC3 Conference Best Demo Award

## Publications

### Refereed Conference Publications

1. **Aditya Vashistha**, Abhinav Garg, and Richard Anderson, ReCall: Crowdsourcing on Basic Phones to Financially Sustain Voice Forums, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2019.
2. **Aditya Vashistha**, Abhinav Garg, Richard Anderson, and Agha Ali Raza, Threats, Abuses, Flirting, and Blackmail: Gender Inequity in Social Media Voice Forums, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2019.
3. Matt Ziegler, Lokesh Garg, Shailesh Tiwary, **Aditya Vashistha**, and Kurtis Heimerl, Fresh Insights: User Research Towards a Market Information Service for Bihari Vegetable Farmers, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2019.
4. **Aditya Vashistha**, Richard Anderson, and Shrirang Mare, Examining Security and Privacy Research in Developing Regions, In *ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)*, 2018.
5. **Aditya Vashistha**, Pooja Sethi, and Richard Anderson, BSpeak: An Accessible Voice-based Crowdsourcing Marketplace for Low-Income Blind People, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2018.
6. **Aditya Vashistha**, Fabian Okeke, Richard Anderson, and Nicola Dell, "You Can Always Do Better!" The Impact of Social Proof on Participant Response Bias, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2018.
7. Naveena Karusala, Aditya Vishwanath, **Aditya Vashistha**, Sunita Kumar, and Neha Kumar, "Only if you use English you will get to more things": Using Smartphones to Navigate Multilingualism, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2018.
8. **Aditya Vashistha**, Neha Kumar, Anil Mishra, and Richard Anderson, Examining Localization Approaches for Community Health, In *ACM SIGCHI Conference on Designing Interactive Systems (DIS)*, 2017.
9. **Aditya Vashistha**, Pooja Sethi, and Richard Anderson, Respeak: A Voice-based, Crowd-powered Speech  Transcription System, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2017. **Best Paper Honorable Mention Award**
10. **Aditya Vashistha** and Richard Anderson, Technology Use and Non-use by Low-income Blind People in India, In *ACM SIGACCESS Accessibility and Computing Newsletter: Issue 116 (SIGACCESS)*, 2016.

11. **Aditya Vashistha**, Neha Kumar, Anil Mishra, and Richard Anderson, Mobile Video Dissemination for Community Health, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2016.
12. **Aditya Vashistha**, Ed Cutrell, Nicola Dell, and Richard Anderson, Social Media Platforms for Low-Income Blind People in India, In *ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*, 2015. **Best Student Paper Award**
13. **Aditya Vashistha**, Rajan Vaish, Ed Cutrell, and Bill Thies, The Whodunit Challenge: Mobilizing the Crowd in India, In *International Conference on Human-Computer Interaction (INTERACT)*, 2015.
14. **Aditya Vashistha**, Ed Cutrell, Gaetano Borriello, and Bill Thies, Sangeet Swara: A Community-Moderated Voice Forum in Rural India, In *ACM Conference on Human Factors in Computing Systems (CHI)*, 2015. **Best Paper Award**
15. **Aditya Vashistha**, Ed Cutrell, and Bill Thies, Increasing the Reach of Snowball Sampling: The Impact of Fixed versus Lottery Incentives, In *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, 2015.
16. **Aditya Vashistha**, Erin Brady, Bill Thies, and Ed Cutrell, Educational Content Creation and Sharing by Low-Income Visually Impaired People in India, In *ACM Symposium on Computing for Development (DEV)*, 2014.
17. Mohamed Gulaid and **Aditya Vashistha**, Ila Dhageyso: An Interactive Voice Forum to Foster Transparent Governance in Somaliland, In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2013.
18. Rijurekha Sen, Andrew Cross, **Aditya Vashistha**, Venkat Padmanabhan, Ed Cutrell and Bill Thies, Accurate Speed and Density Measurement for Road Traffic in India, In *ACM Symposium on Computing for Development (DEV)*, 2013.
19. Karthikeyan Balaji Dhanapal, K Sai Deepak, Saurabh Sharma, Sagar Prakash Joglekar, Aditya Narang, **Aditya Vashistha**, Paras Salunkhe, Harikrishna G. N. Rai, Arun Agrahara Somasundara and Sanjoy Paul, An Innovative System for Remote and Automated Testing of Mobile Phone Applications, In *Annual SRII Global Conference (SRII)*, 2012.
20. **Aditya Vashistha**, Rajarathnam Nallusamy and Sanjoy Paul, NoMark: A Novel Method for Copyright Protection of Digital Videos Without Embedding Data, In *International Symposium on Multimedia (ISM)*, 2010.
21. **Aditya Vashistha**, Rajarathnam Nallusamy and Sanjoy Paul, 2PASCD: An Efficient 2-Pass Abrupt Scene Change Detection Algorithm, In *International Conference on Multimedia Information Networking and Security (MINES)*, 2010.

## Refereed Workshop Publications

22. **Aditya Vashistha**, Doctor on DVD: Virtual Health Consultation Using Interactive DVDs, In *Networked Healthcare Technology Workshop at International Conference on Communication System and Networks (COM-SNETS)*, 2014.

23. **Aditya Vashistha**, Ed Cutrell and Bill Thies, Mapping Interactive Voice Response Call Data in Developing Regions, In *Workshop on Geographic Human-Computer Interaction at ACM Conference on Human Factors in Computing Systems (CHI)*, 2013.
24. **Aditya Vashistha** and Bill Thies, IVR Junction: Building Scalable and Distributed Voice Forums in the Developing World, In *ACM Workshop on Networked Systems for Developing Regions (NSDR)*, 2012.
25. **Aditya Vashistha**, Rajarathnam Nallusamy, Amitabha Das and Sanjoy Paul, Watermarking Video Content Using Visual Cryptography and Scene Averaged Image, In *International Workshop on Content Protection and Forensics at International Conference on Multimedia and Expo (ICME)*, 2010.

## Refereed Poster Abstracts, Demos and Other Short Publications

26. Krittika D'Silva, Meghana Marathe, **Aditya Vashistha**, Gaetano Borriello, and Bill Thies, A Mobile Application for Interactive Voice Forums: Design and Pilot Deployment in Rural India, Poster In *ACM Symposium on Computing for Development (DEV)*, 2014.
27. **Aditya Vashistha**, Ed Cutrell and Bill Thies, IVR Junction: Deploying Social, Scalable and Distributed Voice Forums in the Developing World, Demo In *International Conference on Information and Communication Technologies and Development (ICTD)*, 2013.
28. **Aditya Vashistha** and Bill Thies, How Should Users Convey their Location to an Interactive Voice Response System, Poster In *ACM Symposium on Computing for Development (DEV)*, 2013.
29. Pranav Ramkrishnan, **Aditya Vashistha**, Ed Cutrell and Bill Thies, DocTalk: Extending Doctors' Reach with Personalized Voice Messages, Poster In *ACM Symposium on Computing for Development (DEV)*, 2013.

## Position Papers

30. **Aditya Vashistha**, Rashmi Kanthi, and Richard Anderson, Community-Led Video Education for Digital Financial Services in India, In *HCI Across Borders Symposium at ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 2017.
31. **Aditya Vashistha**, Agha Ali Raza, Umar Saif, Roni Rosenfeld, and Richard Anderson, Changing Perceptions of Citizens of India and Pakistan, In *Development Consortium: HCI Across Borders Workshop at ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 2016.
32. **Aditya Vashistha**, IVR Junction: Addressing Communication Needs of Displaced Communities, In *Workshop on Robust Socio-technical Architectures in Support of Displaced Persons*, 2013.
33. **Aditya Vashistha** and Rajarathnam Nallusamy, Voice Based Social Media and Information Delivery System for Farmers, In *Workshop on Mobile and Web Technologies in Social and Economic Development at Mobile for Development Conference (M4D)*, 2012.

## Magazine Articles

34. **Aditya Vashistha** and Bill Thies, IVR Junction: Connecting Unheard Voices to Global Social Media, in *The Huffington Post*, 2013.

## Patents

35. Methods, Systems and Computer-Readable Media for Detecting Scene Changes in a Video, US 8947600 B2, 2015.
36. Method and System for Efficient Watermarking of Digital Video, US 8379911 B2, 2013.

## Funding

- 2016-2018 Facebook Graduate Fellowship. \$74,000.
- 2014-2017 Tech Challenge Seed Grant from USAID. \$50,000.
- 2014 Facebook Access Innovation Award. \$10,000.
- 2014 SIGACCESS Scholarship in Computers and Accessibility Award. \$2,000
- 2013 Tech Challenge for Atrocity Prevention by USAID and Humanity United. \$7,000.

## Talks

### **Private Saving Practices of Women in Rural India**

2018 Gender and Digital Financial Services Workshop, Seattle (USA).

### **BSpeak: An Accessible Crowdsourcing Marketplace for Low-Income Blind People**

2018 Mechanism Design for Social Good Research Group, Online.  
2018 ACM CHI conference talk, Montreal (Canada).

### **The Impact of Social Proof on Participant Response Bias**

2018 Mechanism Design for Social Good Research Group, Online.  
2018 ACM CHI conference talk, Montreal (Canada).

### **Respeak: A Voice-based, Crowd-powered Speech Transcription System**

2017 Facebook Fellows Workshop, Menlo Park (USA).  
2017 ACM CHI conference talk, Denver (USA).  
2016 UW CSE Industry Affiliates Program, Seattle (USA).

### **Accessibility Research in the Developing World**

2016 Keynote talk at UW-MSR Summer Institute on Expanding Accessibility Research, Union (USA).

### **Mobile Video Dissemination for Community Health**

2016 ICTD conference talk, Ann Arbor (USA).  
2016 UW Change Seminar, Seattle (USA).

### **Social Media Platforms for Low-Income Blind People in India**

2015 ACM ASSETS conference talk, Lisbon (Portugal).  
2015 UW Change Seminar, Seattle (USA).

**Sangeet Swara: A Community Moderated Voice Forum in Rural India**

2015 ACM CHI conference talk, Seoul (Korea).

2015 UW Change Seminar, Seattle (USA).

**Social Computing Platforms in the Developing World**

2018 ICTD Course, Professional Master's Program at UW CSE, Seattle (USA).

2015 UW Qualifying Evaluation Examination Presentation, Seattle (USA).

2015 Computing and Global Health Course, Professional Master's Program at UW CSE, Seattle (USA).

**Educational Content Creation and Sharing by Low-Income Blind People in India**

2015 UW Accessibility Seminar, Seattle (USA).

2014 ACM DEV conference talk, San Jose (USA).

2014 UW Change Seminar, Seattle (USA).

**Empowering Rural India through Information Technologies**

2014 IIT-Bombay, Mumbai (India).

2014 UNICEF India Consultation, Mobiles for Social and Behavior Change, Lucknow (India).

**Social Media for Next Billion People**

2014 Pakistan-ICTD Workshop, Lahore (Pakistan).

2014 RightsCon conference, San Francisco (USA).

2014 Facebook Headquarters, Menlo Park (USA).

**Robust and Scalable Communication Platform for Crisis Scenarios**

2013 Panel talk at International Conference of Crisis Mappers, Nairobi (Kenya).

**Building and Deploying Voice Forums for Information Access and Transparency**

2013 Voice of America and Broadcasting Board of Governors office, Washington DC (USA).

2013 USAID Office of Innovation and Development Alliances (IDEA), Washington DC (USA).

2013 Right to Information and Transparency in the Digital Age, Stanford (USA).

2013 UW Change Seminar, Seattle (USA).

**IVR Junction: Building Scalable and Distributed Voice Forums**

2013 Panel talk, ICTD conference, Cape Town (South Africa).

2013 mBillionth Award South Asia, New Delhi (India).

2013 TechCamp Mumbai organized by US Department of State, Mumbai (India).

2013 Keynote speaker, Sociobator Creatives, Bangalore (India).

2013 Pakistan-ICTD Workshop, Lahore (Pakistan).

2012 Enzen Global, Bangalore (India).

2012 Greenpeace, Bangalore (India).

2012 The Rockefeller Foundation Bellagio Center, Bellagio (Italy).

2012 Workshop on Mobile Data Collection in the Developing World, Bangalore (India).

2012 ACM Workshop on Networked Systems for Developing Regions, Boston (USA).

2012 Mobile for Development conference, New Delhi (India).

**Mapping Interactive Response Call Data in the Developing World**

2013 Workshop on Geographic Human-Computer Interaction at CHI, Paris (France).

**Voice-Based Social Media and Information Delivery System for Farmers**

2012 Mobile for Development Conference, New Delhi (India).

2011 Enzen Global, Bangalore (India).

**A Novel Method for Copyright Protection of Digital Videos without Embedding Data**

2010 Conference talk, IEEE International Symposium on Multimedia, Taichung (Taiwan).

**An Efficient 2-Pass Abrupt Scene Change Detection Algorithm**

2010 Conference talk, International Conference on Multimedia Information Networking and Security, Nanjing (China).

## Advising

**Master's Students**

Anmol Rajal Anubhai, UW Information School

Feb. 2018 – Jul. 2018

Jared Moore, UW CSE

Nov. 2017 – Jun. 2018

Abhinav Garg, UW Information School

Sep. 2017 – Jun. 2018

**Undergraduate Students**

Mrinal Sharma, UW CSE

Mar. 2017 – Mar. 2018

Pooja Sethi, UW CSE

**Best Undergraduate Honors Thesis Award**

Jun. 2014 – Jun. 2017

Divya Cherukupalli, UW CSE

Sep. 2016 – Dec. 2016

Atul Pai, UW CSE

Apr. 2014 – Jun. 2015

Radu Cracut, UW CSE

Jan. 2014 – Jun. 2014

**High School Students**

Khushi Chaudhari, Redmond High School

Sep. 2017 – Dec. 2017

## Service

**Organizing Committee**

2019 Open Sessions Co-Chair, ICTD.

2018 Accessibility and Registration Chair, COMPASS.

2018 Co-organizer, HCI Across Borders: Paving New Pathways Symposium, CHI.

2013-2014 Co-organizer, Pakistan-ICTD Workshop.

2013 Open Session Organizer, ICTD.

**Program Committee**

2019 Papers at ICTD

2017 Notes at ICTD

### **Reviewer**

2013, 2015-2019 CHI

2017-2018 TOCHI

2018 COMPASS

2018 DIS

2018 CSCW

2017 IJHCS

2014 UIST

2014 UbiComp

2011 ICCCT

2011 ICDCN

### **Local Arrangements Coordinator**

2011 ICDCN

### **University Service**

2018 Co-organizer, UW DUB Doctoral Consortium

2018 Graduate Admissions Committee, UW CSE

2014-2017 Graduate Student Coordinator, UW CSE

## **Research Appointments**

### **Research Assistant at ICTD Lab**

University of Washington

Advisors: Richard Anderson and Gaetano Borriello

Sep. 2013 – Present

### **Research Intern at Technology for Emerging Markets**

Microsoft Research India

Advisors: Bill Thies and Ed Cutrell

Dec. 2014 – Jan. 2015

Jun. 2014 – Sep. 2014

Dec. 2013 – Jan. 2014

### **Assistant Researcher at Technology for Emerging Markets**

Microsoft Research India

Advisors: Bill Thies and Ed Cutrell

Oct. 2011 – Aug. 2013

### **Systems Research Engineer at Convergence Lab**

Infosys Labs, India

Advisors: Rajarathnam Nallusamy and Sanjoy Paul

Oct. 2009 – Sep. 2011

## **Teaching Experience**

**Teaching Assistant**, Fall 2017, CSEP 590: Information and Communication Technologies and International Development, Professional Master's Program at UW CSE

**Teaching Assistant**, Spring 2016, CSE 599: Information and Communication Technologies and International Development, Post Qualls Course at UW CSE

**Guest Lecturer**, Winter 2015, CSEP 590B, Computing & Global Health, Professional Master's Program at UW CSE



## Public Release of Software Artifacts

2013 **IVR Junction**, Apache 2.0 license, <http://www.ivrjunction.org>

IVR Junction offers flexible and robust voice-based communication by connecting an IVR system to cloud services such as YouTube, Facebook and other social media. IVR Junction has been used by several leading media and global development organizations, e.g., the US Agency for Global Media, the Government of Somaliland, Microsoft, the University of Washington, etc.

## Selected Press

"Innovators enlist citizen journalists to combat India's rape crisis", [GlobalPost](#).

"How IVR Junction bridges the technology gap for people lacking smartphones", [IJNet Blog](#).

"A Technology that helps bridge the digital divide", [LiveMint](#).

"Microsoft's social 'Whodunit' competition to begin in India", [Yahoo! News](#).

"Microsoft India Announces a Nationwide Social Gaming Competition", [Silicon India](#).

"Social whodunnit competition launches in India", [NewScientist](#).

## References

### **Richard Anderson**

Professor, Computer Science and Engineering, University of Washington

### **Bill Thies**

Principal Researcher, Microsoft Research New England

### **Ed Cutrell**

Principal Researcher, Microsoft Research Redmond

### **Richard Ladner**

Professor Emeritus, Computer Science and Engineering, University of Washington

### **Nicola Dell**

Assistant Professor, Information and Computer Science, Cornell Tech