

# Anita Sarma

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**RESEARCH AREAS: software engineering; diversity & inclusion, human computer interaction, end-user programming; usable security**

## EDUCATION

2002 – 2007            Doctor of Philosophy in Computer Science  
University of California, Irvine  
Dissertation Title: *Palantir: Enhancing Configuration Management Workspaces to Support Distributed Software Development*  
Advisor: André van der Hoek

2000 – 2002            Master of Science in Computer Science  
University of California, Irvine  
Concentration: Software Engineering

1994 – 1998            Master of Management Studies  
Birla Institute of Technology and Sciences (BITS)  
Pilani, Rajasthan, India  
Concentration: Finance and Software

## EXPERIENCE

2022 – present            Professor  
School of Electrical Engineering and Computer Science  
Oregon State University

2023– present            Associate Head of Research  
School of Electrical Engineering and Computer Science  
Oregon State University

2022                      Visiting Research Scientist, Google

2019 – present            Consultant for the Apache Source Foundation (from 2019-present), Linux Foundation (2021), GitHub (2022), Globant (2022 - present)

2015 – 2022            Associate Professor  
School of Electrical Engineering and Computer Science  
Oregon State University

2009 – 2015            Assistant Professor  
Department of Computer Science and Engineering  
University of Nebraska, Lincoln

2008 – 2009            Post-Doctoral Fellow  
Carnegie Mellon University, Institute for Software Research  
Area: Software Engineering

	Advisor: James Herbsleb
2000 – 2007	University of California, Irvine, Donald Bren School of Information and Computer Sciences <i>Graduate Research Assistant (2001 – 2007)</i> <i>Teaching Assistant (2000 – 2001)</i>
Summer 2004	IBM Research Labs, Collaborative User Experience Group, Cambridge, MA <i>Intern</i>
Summer 2001	University of California, Irvine COSMOS (California State Summer School for Mathematics and Sciences) Instructor of Record
1998 – 2000	IMRglobal Limited, Mumbai, India <i>Module Leader (February 2000 – July 2000)</i> <i>Programmer and Analyst (August 1998 – February 2000)</i>

## RESEARCH FUNDING

2022	NSF: “IUSE: Scaffolding Computational Thinking in Introductory CS through a Conversational Agent”, <b>(PI)</b> – \$195,000; 01/01/2023 – 12/30/2025.
2021	Google, Award for Inclusion Research: “Improving A Sense of Belonging in Open Source by Supporting Diverse Roles”, <b>(PI)</b> - \$60,000; 01/01/2023 – 12/31/2024.
2020	NSF: “SHF: Small: Collaborative Research: Adaptive Development Environments: Modeling and Supporting Cognitive Styles of Software Developers”, <b>(PI)</b> - \$250,000; 08/01/2020 – 09/30/2023.
2019	NSF: “CHS: Large: Collaborative Research: Gender-Inclusive Open Source through Gender-Inclusive Tools” <b>(PI)</b> - \$1,400,000; 09/01/2019 – 08/31/23.
2018	NSF: “CHS: SHF: SMALL: Collaborative Research: Scaffolding skill acquisition to onboard OSS ecosystems”, <b>(PI)</b> - \$250,000; 09/01/2018 – 08/31/21.
2013	NSF: “HCC: Large: Collaborative Research: Variations to Support Exploratory Programming”, <b>(PI)</b> - \$857,156; 08/01/2013 – 07/31/2017.
2013	NSF, “SHF: CAREER: Conflict Minimization in Distributed Software Development”, <b>(PI)</b> - \$500,000; 05/15/2013 – 05/14/2018.
2011	NSF, “HCC: Large: Collaborative Research: Large-Scale Human-Centered Coordination Systems to Support Interdependent Tasks in Context”, <b>(PI)</b> - \$251,936; 09/01/2011 – 08/31/2014.
2010	AFOSR (Air Force Office of Scientific Research), “Safeguarding End-User Military Software”, supported as an earmark to Nebraska, <b>(one of five co-PIs)</b> - \$3,955,290; 10/01/2010 – 9/30/2014.
2010	NSF, “SHF: Supporting Continuous Awareness and Exploration of Social and Design Dependencies”, <b>(PI)</b> - \$166,143; 08/15/2010 – 08/14/2013.
2010	UNL, Layman award - “Characterizing Software Conflicts in Distributed Development”, <b>(PI)</b> - \$6,600; 06/01/2010 – 05/31/2011.
2009	IBM JAZZ Innovation Grant <b>(co-PI)</b> , CMU - \$44,000; 06/01/2008 – 05/31/2009.

## NSF: REU SUPPORT

2020	NSF: REU Supplemental award to “CHS: SHF: SMALL: Collaborative Research: Scaffolding skill acquisition to onboard OSS ecosystems” <b>(PI)</b> - \$16,000.
2020	NSF: REU Supplemental award to “CHS: Large: Collaborative Research: Gender-Inclusive Open Source through Gender-Inclusive Tools” <b>(PI)</b> - \$32,000.

- 2018 NSF: REU Supplemental award to “HCC: Large: Collaborative Research: Variations to Support Exploratory Programming”, (PI) - \$16,000; 05/08/2018.
- 2018 NSF: REU Supplemental award to “SHF: CAREER: Conflict Minimization in Distributed Software Development”, (PI) - \$16,000; 04/23/2018.
- 2017 NSF: REU Supplemental award to “SHF: CAREER: Conflict Minimization in Distributed Software Development”, (PI) - \$16,000; 05/02/2017.
- 2016 NSF: REU Supplemental award to “HCC: Large: Collaborative Research: Variations to Support Exploratory Programming”, (PI) - \$16,000; 06/20/2016.
- 2011 NSF, REU Supplement award to "HCC: Large: Collaborative Research: Large-Scale Human-Centered Coordination Systems to Support Interdependent Tasks in Context", (PI) - \$16,000: 09/01/2011 – 08/31/2014.

**NSF FUNDING: SERVICE**

- 2016 NSF, "CHS: VL/HCC 2016 Graduate Consortium", (PI) - \$28,810; 03/01/2016 – 02/28/2017.
- 2015 NSF, "CHS: VL/HCC 2015 Graduate Consortium", (PI) - \$26,034; 07/01/2015 – 06/20/2016.
- 2010 NSF, "CCF: Student Volunteer Scholarship: Broadening Participation through Student Volunteers at FSE", (PI) - \$13,170; period: 09/01/2010 – 08/31/2011.

**OTHER FUNDING**

- 2010 NSF and ACM SIGSOFT travel funds to attend Software Engineering Educators’ Symposium
- 2009 CRA-W scholarship to attend New Faculty Mentoring workshop.
- 2006 UMBC NSF ADVANCE Scholarship to attend Faculty Horizons, a workshop for aspiring STEM (Science, Technology, Engineering, and Mathematics) faculty.
- 2006, 2004 UCI, Ada Byron Research Center for diversity in computing and information technology, student scholarship for Grace Hopper Celebration of Women in Computing (GHC).

**NOTABLE AWARDS**

- 2021 OSU 2021 co-recipient of “Breaking Barriers in Research” Award for the GenderMag project
- 2020 Honorable Mention at the 23rd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW).
- 2020 Best Paper Award at the 16th International Symposium on Open Collaboration (OpenSym)
- 2020 ACM SIGSOFT Distinguished Paper award at the 42nd International Conference on Software Engineering (ICSE)
- 2020 Honorable Mention at ACM SIGCHI Conf. on Human Factors in Computing Systems (CHI)
- 2017 IEEE TCSE Distinguished Paper Award at International Conference on Software Maintenance and Evolution (ICSME)
- 2017 Honorable Mention at SIGCHI Conf. on Human Factors in Computing Systems (CHI)
- 2016 Best paper award at IEEE International Conference on Global Software Engineering (ICGSE)
- 2016 Best paper award at SIGCHI Conf. on Human Factors in Computing Systems (CHI)
- 2015 Distinguished Reviewer award for ICSE 2015
- 2012 Student Choice Outstanding Teaching Award (Upper Level).
- 2011 Distinguished paper award at Empirical Software Engineering and Measurement (ESEM).
- 2007 Nominated for best paper award at Automated Software Engineering (ASE) .
- 2007 UC Irvine Donald Bren School of Information and Computer Sciences Dissertation Fellowship Recipient.
- 2003 Donald Bren School of Information and Computer Sciences Summer Scholarship for Outstanding Students, University of California, Irvine.
- 2000 Donald Bren School of Information and Computer Sciences Fellowship, University of California, Irvine.

## REFEREED JOURNAL PUBLICATIONS

- J. 27 F. Santos, J. Vargovich, B. Trinkenreich, I. Santos, J. Penney, R. Britto, J.F. Pimentel, I. Wiese, I. Steinmacher, A. Sarma, and M. Gerosa, *Tag that issue: Applying API-domain labels in issue tracking systems*. Empirical Software Engineering, 2023 (to appear).
- J. 26 S. Chattopadhyay, N. Nelson, A. Au, N. Morales, C. Sanchez, R. Pandita, R. and A. Sarma, Cognitive biases in software development. Communications of the ACM, 2022, 65(4), pp.115-122.
- J.25 B. Trinkenreich, I. Wiese, M. Gerosa, A. Sarma, I. Steinmacher, Women's Participation in Open Source Software: A Survey of the Literature, Transactions of Software Engineering and Methodology Journal, 2022, 31(4): 81:1-81:37.
- J.24 J. R. da Silva Junior, D. P. Campagna, E. Clua, A. Sarma, and L. Murta, *Dominoes: An Interactive Exploratory Data Analysis tool for Software Relationships*, IEEE Transactions on Software Engineering, 2022, 48(2): 377-396.
- J.23 S. H. Padala, C. J. Mendez, L. F. Dias, I. Steinmacher, Z. Stein-Hanson, C. Hilderbrand, A. Horvath, C. Hill, L. Simpson, M. Burnett, M. Gerosa, and A. Sarma, *How Gender-biased Tools Shape Newcomer Experiences in OSS Projects*, IEEE Transactions on Software Engineering, 2022, 48(2): 241-259.
- J.22 M. Saeidi, M. Calvert, A. Au, A. Sarma and R. Bobba, If This Context Then That Concern: Exploring users' concerns with IFTTT applets, Privacy Enhancing Technologies Symposium (PoPETs), 2022, (1) pages 166-186.
- J.21 M. Guizani, A. Chatterjee, B. Trinkenreich, M.E. May, G. Noa-Guevara, L.J Russel, G. C. Zambrano, D. Izquierdo-Cortazar, I. Steinmacher, M. Gerosa, and A. Sarma. The Long Road Ahead: Ongoing Challenges in Contributing to Large OSS Organizations and What to Do, ACM Hum.-Comput. Interact. 5, CSCW2, 2021, Article 407, 30 pages.
- J.20 B. Trinkenreich, M. Guizani, I. Wiese, T. Conte, M. Gerosa, A. Sarma, and Igor Steinmacher, The Pot of Gold at the End of the Rainbow: What is Success for Open Source Contributors? IEEE Transactions on Software Engineering (TSE) (preprint: doi: 10.1109/TSE.2021.3108032).
- J.19 I. Steinmacher, S. Balali, B. Trinkenreich, M. Guizani, M. Gerosa, and A. Sarma, Being a Mentor in Open Source Projects, Journal of Information Security and Applications (JISA), Elsevier. 12 (7) 2021.
- J.18 S. Kuttal, X. Chen, Z. Wang, S. Balali, and A. Sarma, *Visual Resume: Exploring Developers' Online Contributions for Hiring*, Information and Software Technology, Elsevier, 2021, 38:106633.
- J.17 M. Guizani, L. Letaw, M. Burnett and A. Sarma, Gender Inclusivity as a Quality Requirement: Practices and Pitfalls, in IEEE Software, vol. 37, no. 6, pages 7-11, Nov.-Dec. 2020.
- J.16 B. Trinkenreich, M. Guizani, I. Wiese, A. Sarma, and I. Steinmacher. Hidden Figures: Roles and Pathways of Successful OSS Contributors. ACM Human-Computer Interaction 4, CSCW2, Article 180, 22 pages, November 2020. [[Honorable Mention at CSCW'2020](#)]
- J.15 C. Brindescu, I. Ahmed, C. Jensen, and A. Sarma, *An Empirical Investigation into Merge Conflicts and their Effect on Software Quality*, Empirical Software Engineering, 2020, 25(1): pages 562-590.
- J.14 C. d. S. Costa, J. J. Figueiredo, J. F. Pimentel, A. Sarma, and L. G. P. Murta, *Recommending Participants for Collaborative Merge Sessions*, IEEE Transactions on Software Engineering, 2019.
- J.13 H. Qiu, Y. L. Li, S. H. Padala, A. Sarma, and B. Vasilescu, *The Signals that Potential Contributors Look for When Choosing Open-source Projects*, ACM Human-Computer Interaction (PACMHCI 3/CSCW), 2019, Article 122, 29 pages.
- J.12 N. Nelson, C. Brindescu, S. McKee, A. Sarma, and D. Dig, *The Life-Cycle of Merge Conflicts: Processes, Barriers, and Strategies*, Empirical Software Engineering Journal (Springer), 2019, 24(5): pages 2863-2906.

- J.11 S. K. Kuttal, M. Burnett, A. Sarma, G. Rothermel, I. Koeppe, and B. Shepherd, *How End-User Programmers Debug Visual Web-Based Programs: An Information Foraging Theory Perspective*, Journal of Computer Language, 2019, 53: pages 22-37.
- J.10 S. K. Kuttal, A. Sarma, G. Rothermel, and Z. Wang, *What Happened to My Application? Helping End Users Comprehend Evolution through Variation Management*, Information and Software Technology Journal, Elsevier, 2018, 103: pages 55-74.
- J.9 S. Balali, I. Steinmacher, U. Annamalai, A. Sarma, and M. Gerosa, *Newcomers' Barriers... Is That All? An Analysis of Mentors' and Newcomers' Barriers in OSS*, Journal of Computer Supported Cooperative Work (CSCW), 2018, 27: pages 55-74.
- J.8 M. A. Gerosa, D. Redmiles, P. Bjørn, and A. Sarma, *Thematic series on software engineering from a social network perspective*, Journal of Internet Services and Applications, 2015, 6(1): page 23.
- J.7 J. R. da Silva Junior, E. Clua, L. Murta, and A. Sarma, *Dominoes, Exploratory Data Analysis of Software Repositories in Apache Derby*, International Journal of Software Engineering & Knowledge Engineering, 2015, 25(1): pages 51-68.
- J.6 S. K. Kuttal, A. Sarma, and G. Rothermel, *On the Benefits of Providing Versioning Support for End Users: an Empirical Study*, ACM Transactions on Computer-Human Interactions, 2014, 21(2): Article 9, pages 1-43.
- J.5 K. T. Stolee, S. Elbaum, and A. Sarma, *Discovering How End-User Programmers and their Communities use Public Repositories*, Information and Software Technology, 2013, 55(7): pages 1289-1303.
- J.4 A. Sarma, D. F. Redmiles, and A. van der Hoek, *Palantir: Early Detection of Development Conflicts Arising from Parallel Code Changes*, IEEE Transactions on Software Engineering, 2012, 38(4): pages 889-908.
- J.3 A. Sarma, D. F. Redmiles, and A. van der Hoek, *Categorizing the Spectrum of Coordination Technology*, IEEE Computer, 2010, 43(6): pages 61-67.
- J.2 B. Al-Ani, D. Redmiles, A. van der Hoek, M. Alvim, I. Almeida da Silva, N. Mangano, E. Trainer, and A. Sarma, *Continuous Coordination within Software Engineering Teams: Concepts and Tool Support*, Journal of Computer Science and Engineering in Arabic: special issue on Software Engineering, 2008, 1(3): pages 10-33.
- J.1 D. Redmiles, A. van der Hoek, B. Al-Ani, T. Hildenbrand, S. Quirk, A. Sarma, R. Silveira Silva Filho, C. de Souza, and E. Trainer, *Continuous Coordination: A New Paradigm to Support Globally Distributed Software Development Projects*, In Wirtschaftsinformatik, 2007, 49 (Special Issue): pages 28-38.

## BOOK CHAPTERS

- BC.5 J. Dicker, E. Murphy-Hill and A. Sarma, *Experiences Implementing and Deploying Anonymous Code Review*, In: D. Damian, K. Blincoe, D. Ford, A. Serebrenik, Z. Masood "Equity, Diversity, and Inclusion in Software Engineering: Best Practices and Insights", Springer, 2023 (to appear).
- BC.4 M.M. Hamid, A. Chatterjee, M. Guizani, A. Anderson, F. Moussaoui, S. Yang, I. Escobar, A. Sarma and M. Burnett, *How to measure diversity actionably in technology*, In: D. Damian, K. Blincoe, D. Ford, A. Serebrenik, Z. Masood "Equity, Diversity, and Inclusion in Software Engineering: Best Practices and Insights", Springer, 2023 (to appear).
- BC.3 I. Steinmacher, B. Trinkenreich, A. Sarma and M. Gerosa, *Breaking the Glass Floor for Women in Tech*, In: D. Damian, K. Blincoe, D. Ford, A. Serebrenik, Z. Masood "Equity, Diversity, and Inclusion in Software Engineering: Best Practices and Insights", Springer, 2023 (to appear).

- BC.2 A. Sarma, *Coordination Technologies*, In: Cha S., Taylor R., Kang K. (eds) Handbook of Software Engineering. Springer, Cham, 2019, pages 375-398.
- BC.1 A. Sarma, B. Al-Ani, E. Trainer, R.S. Silva Filho, I. da Silva, D. Redmiles, and A. van der Hoek, *Continuous Coordination Tools and their Evaluation*, book chapter for Collaborative Software Engineering (CoSE), Editors: A. Finkelstein, J.Grundy, A, van der Hoek, I. Mistrík, and Jim Whitehead, Springer-Verlag/Computer Science Editorial, Chapter 8, 2010, pages 153-178.

## REFEREED CONFERENCE & WORKSHOP PUBLICATIONS

- C. 83 Z. Feng, M. Guizani, M. Gerosa, and A Sarma, The State of Diversity and Inclusion in Apache: A Pulse Check, International Conference on Cooperative and Human Aspects of Software Engineering, May 2023 (to appear)
- C. 82 M. Guizani, A. Castro-Guzman, A. Sarma, and I. Steinmacher, Rules of Engagement: Why and How Companies Participate in OSS, ACM/IEEE International Conference on Software Engineering (ICSE), May 2023 (to appear).
- C. 81 I. Santos, M. Gerosa, A. Sarma, I. Wiese, and I. Steinmacher, Designing for Cognitive Diversity: Improving the GitHub Experience, ACM/IEEE International Conference on Software Engineering, Software Engineering in Society track (ICSE-SEIS), May 2023 (to appear).
- C. 80 B. Trinkenreich, K-J. Stol, A. Sarma, D. German, M. Gerosa, I. Steinmacher, Do I Belong? Modeling Sense of Virtual Community Among Linux Kernel Contributors, ACM/IEEE International Conference on Software Engineering (ICSE), May 2023. **[Distinguished Paper Award]**
- C.79 B. Trinkenreich, K-J. Stol, I. Steinmacher, M. Gerosa, A. Sarma, M. Lara, M. Feathers, N. Ross, K. Bishop, A Model for Understanding and Reducing Developer Burnout, ACM/IEEE International Conference on Software Engineering, Software Engineering in Practice track (ICSE-SEIP), May 2023 (to appear).
- C.78 Z. Feng, A. Chatterjee, A. Sarma, and I. Ahmed, A Case Study of Implicit Mentoring, its Prevalence, and Impact in Apache, ACM SIGSOFT International Symposium on Foundations of Software Engineering (FSE), 2022, (to appear).
- C. 77 A. Chatterjee, L. Letaw, R. Garcia, U.D. Reddy, R. Choudhuri, S.S Kumar, P. Morreale, A. Sarma, and Burnett. Inclusivity Bugs in Online Courseware: A Field Study. ACM Conference on International Computing Education Research, 2022, Volume 1 pages. 356-372.
- C. 76 F. Santos, B. Trinkenreich, J.F. Pimentel, I. Wiese, I. Steinmacher, A. Sarma, and M. Gerosa, How to choose a task? Mismatches in perspectives of newcomers and existing contributors. 16th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, 2022, pages. 114-124.
- C.75 M. Guizani, I. Steinmacher, J. Emard, A. Fallatah, M. Burnett, A. Sarma, How to Debug Inclusivity Bugs? A Debugging Process with Information Architecture, ACM/IEEE International Conference on Software Engineering, Software Engineering in Society track (ICSE-SEIS), May 2022, pages 90-101.
- C.74 M. Guizani, T. Zimmermann, A. Sarma, and D. Ford, Attracting and Retaining OSS contributors with a Maintainer Dashboard, ACM/IEEE International Conference on Software Engineering, Software Engineering in Society track (ICSE-SEIS), May 2022, pages 36-40.
- C.73 T. Kani, J. Grundy, J. McIntosh, A. Sarma, G. Aniruddha, A New Approach Towards Ensuring Gender Inclusive SE Job Advertisements, ACM/IEEE International Conference on Software Engineering, Software Engineering in Society track (ICSE-SEIS), May 2022, pages 1-11.
- C.72 M. Guizani, B. Trinkenreich, A. Castro-Guzman, I. Steinmacher, M. Gerosa, A. Sarma, Perceptions of the State of D&I and D&I Initiative in the ASF, ACM/IEEE International Conference on

- Software Engineering, Software Engineering in Society track (ICSE-SEIS), May 2022, pages 130-142.
- C.71 I. Santos, I. Wiese, I. Steinmacher, A. Sarma and M. Gerosa, Hits and Misses: Newcomers' ability to identify Skills needed for OSS tasks, IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER), March 2022, pages 174-183.
- C.70 A. Chatterjee, M. Guizani, C. Stevens, J. Emard, M. May, M. Burnett, I. Ahmed, A. Sarma, “*AID: An Automated Inclusivity-Bug Detector*”, ACM/IEEE International Conference on Software Engineering (ICSE), May 2021, pages 1423-1435.
- C.69 M. Gerosa, I. Wiese, B. Trinkenreich, G. Link, G. Robles, C. Treude, I. Steinmacher, and A. Sarma, “*The Shifting Sands of Motivation: Revisiting What Drives Contributors in Open Source*”, ACM/IEEE International Conference on Software Engineering (ICSE), pages 1046-1058, May 2021, pages: 1046-1058.
- C.68 F. Santos, I. Wiese, B. Trinkenreich, I. Steinmacher, A. Sarma, and M. Gerosa, Can I Solve it? Identifying APIs Required to Complete OSS Tasks, IEEE/ACM International Conference on Mining Software Repositories (MSR), pages 346-357, May 2021.
- C.67 U. A. Mannan, I. Ahmed, C. Jenson, and A. Sarma, *On the Relationship Between Design Discussions and Design Quality: A Case Study of Apache Projects*, ACM SIGSOFT International Symposium on Foundations of Software Engineering (FSE), pages 543-555, November 2020.
- C.66 S. Balali, U. Annamalai, S. Padala, B. Trinkenreich, M. Gerosa, I. Steinmacher, and A. Sarma, *Recommending Tasks to Newcomers in OSS Projects: How Do Mentors Handle It?* 16th International Symposium on Open Collaboration (OpenSym), pages 7:1-7:14, August 2020. **[Best Paper Award]**
- C.65 M. Adeli, N. Nelson, S. Chattopadhyay, H. Coffey, A. Henley, and A. Sarma, *Supporting Code Comprehension via Annotations: Right Information at the Right Time and Place*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC Dunedin), pages 1-10, August 2020.
- C.64 C. Brindescu, Y. Ramirez, A. Sarma and C. Jensen, Lifting the Curtain on Merge Conflict Resolution: A Sensemaking Perspective, 2020 IEEE International Conference on Software Maintenance and Evolution (ICSME), pages 534-545, 2020.
- C.63 C. Brindescu, I. Ahmed, R. Leano, and A. Sarma, *Planning for Untangling: Predicting the Difficulty of Merge Conflicts*, ACM/IEEE International Conference on Software Engineering, pages 801-811, May 2020.
- C.62 C. Hilderbrand, C. Perdriau, L. Letaw, J. Emard, Z. Steine-Hanson, M. Burnett, and A. Sarma, *Engineering Gender-Inclusivity into Software: Ten Teams' Tales from the Trenches*, ACM/IEEE 42nd International Conference on Software Engineering (ICSE), pages 433-333, May 2020.
- C.61 S. Chattopadhyay, N. Nelson, A. Au, N. Morales, C. Sanchez, R. Pandita, and A. Sarma, *A Tale from the Trenches: Cognitive Biases and Software Development*, ACM/IEEE 42nd International Conference on Software Engineering (ICSE), pages 654-655, May 2020. **[Distinguished Paper Award]**
- C.60 S. Chattopadhyay, I. Prasad, A. Z. Henley, A. Sarma, and T. Barik, *What's Wrong with Computational Notebooks? Pain Points, Needs, and Design Opportunities*, ACM Conference on Human Factors in Computing Systems, CHI 2020, pages 1-12. **[Best Paper Honorable Mention]**
- C.59 C. Mendez, L. Letaw, M. Burnett, S. Stumpf, A. Sarma, and C. Hilderbrand, *From GenderMag to InclusiveMag: An Inclusive Design Meta-Method*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), October 2019, pages 97-106.
- C.58 S. Chattopadhyay, N. Nelson, Y. R. Gonzalez, A. Leon, R. Pandita, and A. Sarma, *Latent Patterns in Activities: A Field Study of How Developers Manage Context*, ACM/IEEE 41st International Conference on Software Engineering, May 2019, pages 373-383.

- C.57 U. A. Mannan, I. Ahmed, and A. Sarma, *Towards Understanding Code Readability and Its impact on Design Quality*, ACM 4th International Workshop on NLP for Software Engineering (NL4SE), November 2018, pages 18-21.
- C.56 C. Mendez, Z. Steine-Hanson, A. Oleson, A. Horvath, C. Hill, C. Hilderbrand, A. Sarma, and M. Burnett, *Semi-Automating (or not) a Socio-Technical Method for Socio-Technical Systems*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), October 2018, pages 23-32.
- C.55 S. Chattopadhyay, N. Nelson, T. Nam, M. Calvert, and A. Sarma, *Context in Programming: An Investigation of How Programmers Create Context*, ACM/IEEE 11th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), June 2018, pages 22-36.
- C.54 C. Mendez, A. Sarma, and M. Burnett, *Gender in Open Source Software: What the Tools Tell*, IEEE/ACM 1st International Workshop on Gender Equality in Software Engineering (GE), May-June 2018, pages 21-24.
- C.53 C. Mendez, H. S. Padala, Z. Steine-Hanson, C. Hilderbrand, A. Horvath, C. Hill, L. Simpson, N. Patil, A. Sarma, and M. Burnett, *Open Source barriers to entry, revisited: A sociotechnical perspective*, ACM/IEEE International Conference on Software Engineering (ICSE), May 2018, pages 1004-1015.
- C.52 V. Vinayakarao, A. Sarma, R. Purandare, S. Jai, and S. Jain, *An Empirical Examination of the Relationship Between Code Smells and Merge Conflicts*, IEEE/ACM 11th International Symposium on Empirical Software Engineering and Measurement (ESEM), November 2017, pages 58-67.
- C.51 R. Leano, S. Chattopadhyay, and A. Sarma, *What makes a task difficult? An empirical study of perceptions of task difficulty*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), November 2017, pages 67-71.
- C.50 K. J. Kaaz, A. Hoffer, M. Saeidi, A. Sarma, and R. B. Bobba, *Understanding user perceptions of privacy, and configuration challenges in home automation*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), October 2017, pages 297-301.
- C.49 S. McKee, N. Nelson, A. Sarma, and D. Dig, *Software Practitioner Perspectives on Merge Conflicts and Resolutions*, IEEE International Conference on Software Maintenance and Evolution (ICSME), September 2017, pages 467-478. **[Distinguished Paper Award]**
- C.48 N. Nelson, A. Sarma, and A. van der Hoek, *Towards an IDE to Support Programming as Problem-Solving*, 28th Annual Workshop of the Psychology of Programming Interest Group (PPIG), 2017, pages 105-108.
- C.47 C. Hill, M. Haag, A. Oleson, C. Mendez, N. Marsden, A. Sarma, and M. Burnett, *Gender-Inclusiveness Personas vs. Stereotyping: Can We Have it Both Ways?*, ACM Conference on Human Factors in Computing Systems (CHI), May 2017, pages 6658-6671. **[Best Paper Honorable Mention]**
- C.46 S. S. Ragavan, B. Pandya, D. Piorkowski, C. Hill, S. Kuttal, A. Sarma, and M. Burnett, *PFIS-V: Modeling Foraging Behavior in the Presence of Variants*, ACM Conference on Human Factors in Computing Systems (CHI), May 2017, pages 6232-6244.
- C.45 D. Graziotin, R. Prikladnicki, M. Levy, A. Sarma, and D. Socha, *10th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE 2017)*, IEEE/ACM 10th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), May 2017, page 1.
- C.44 V. Vinayakarao, A. Sarma, R. Purandare, S. Jai, and S. Jain, *ANNE: Improving Source Code Search using Entity Retrieval Approach*, SIGIR ACM International Conference on Web Search and Data Mining (WSDM), 2017, pages 211-220.
- C.43 C. Costa, J. Figueiredo, L. Murta, and A. Sarma, *TIPMerge: Recommending developers for merging branches*, ACM 24th SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), Demonstration Track, November 2016, pages 998-1002.

- C.42 A. Sarma, M. A. Gerosa, I. Steinmacher, and R. Leano, *Training the future workforce through task curation in an OSS ecosystem*, ACM 24th SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), Visions Track, November 2016, pages 932-935.
- C.41 C. Costa, J. Figueiredo, L. Murta, and A. Sarma, *TIPMerge: Recommending Experts for Integrating Changes across Branches*, SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), November 2016, pages 523-534.
- C.40 K. J. North, A. Sarma, and M. B. Cohen, *Understanding Git History: A Multi-sense View*, ACM 8th International Workshop on Social Software Engineering (SSE) collocated with FSE, November 2016, pages 1-7.
- C.39 R. Leano, Z. Wang, and A. Sarma, *Labeling relevant skills in tasks: Can the crowd help?*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2016, pages 185-189.
- C.38 A. Sarma, X. Chen, S. Kuttal, L. Dabbish, and Z. Wang, *Hiring in the Global Stage: Profiles of Online Contributions*, IEEE 11th International Conference on Global Software Engineering (ICGSE), August 2016, pages 1-10. **[Best Paper Award]**
- C.37 S. S. Ragavan, C. Hill, S. Kuttal, A. Sarma, D. Piorkowski, and M. Burnett, *Foraging among an Overabundance of Similar Variants*, ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), May 2016, pages 3509-3521. **[Best Paper Award]**
- C.36 K. J. North, S. Bolan, A. Sarma, and M. B. Cohen, *GitSonifier: Using Sound to Portray Developer Conflict History*, ACM 10th Joint Meeting on Foundations of Software Engineering (ESEC/FSE), NIER Track, August 2015, pages 886-889.
- C.35 A. Begel, R. Prikładnicki, Y. Dittrich, C. R. B. de Souza, A. Sarma, and S. Athavale, *8th international workshop on cooperative and human aspects of software engineering (CHASE 2015)*, IEEE/ACM 37th International Conference on Software Engineering (ICSE), Volume 2, May 2015, pages 969-970.
- C.34 J. R. da Silva Junior, E. Clua, L. Murta, and A. Sarma, *Niche vs. Breadth: Calculating Expertise through a Fine-Grained Analysis*, IEEE 22nd International Conference on Software Analysis, Evolution, and Re-engineering (SANER), March 2015, pages 409-418.
- C.33 K. Hart and A. Sarma, *Perceptions of Answer Quality in An Online Technical Question and Answer Forum*, ACM 7th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), May 2014, pages 103-106.
- C.32 J. R. da Silva Junior, E. Clua, L. Murta, and A. Sarma, *Exploratory Data Analysis of Software Repositories via GPU Processing*, 26th International Conference on Software Engineering and Knowledge Engineering (SEKE), July 2014, pages 495-500.
- C.31 A. Sarma, J. Branchaud, M. Dwyer, S. Person, and N. Rungta, *Development Context Driven Change Awareness and Analysis Framework*, International Conference on Software Engineering: New Ideas and Emerging Results Track (NIER), May 2014, pages 404-407.
- C.30 P. Wagstrom, C. Jergensen, and A. Sarma, *A Network of Rails: A Graph Dataset of Ruby on Rails and Associated Projects*, IEEE/ACM 10th Working Conference on Mining Software Repositories (MSR), June 2013, pages 229-232.
- C.29 S. K. Kuttal, A. Sarma, and G. Rothermel, *Predator Behavior in the Wild Web World of Bugs: An Information Foraging Theory Perspective*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), September 2013, pages 183-184.
- C.28 B. K. Kasi and A. Sarma, *Cassandra: Proactive Conflict Minimization through Optimized Task Scheduling*, IEEE/ACM 35th International Conference on Software Engineering (ICSE), June 2013, pages 732-741.

- C.27 B. K. Kasi and A. Sarma, *How to evaluate a conflict minimizing task scheduler through a user study*, IEEE 2nd International Workshop on User Evaluations for Software Engineering Researchers (USER), May 2013, pages 9-12.
- C.26 S. K. Kuttal, A. Sarma, and G. Rothermel, *Debugging Support for End-User Mashup Programming*, ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), May 2013, pages 1609-1618.
- C.25 S. K. Kuttal, A. Sarma, and G. Rothermel, *History Repeats Itself More Easily When You Log It: Versioning for Mashup*, IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), September 2011, pages 69-72.
- C.24 K. T. Stolee, S. Elbaum, and A. Sarma, *End-User Programmers and their Communities: An Artifact-based Analysis*, IEEE/ACM International Symposium on Empirical Software Engineering and Measurement (ESEM), September 2011, pages 147-156. **[Distinguished Paper Award]**
- C.23 C. Jergensen, A. Sarma, and P. Wagstrom, *The Onion Patch: Migration in Open Source Ecosystems*, 8th joint meeting of the European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), September 2011, pages 70-80.
- C.22 S. K. Kuttal, A. Sarma, A. Swearngin, and G. Rothermel, *Versioning for Mashups - An Exploratory Study*, Proceedings of the 3rd International Symposium on End-User Development, June 2011, pages 25-41.
- C.21 J. C. Georgas and A. Sarma, *STCML: an extensible XML-based language for socio-technical modeling*, IEEE/ACM 4th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), May 2011, pages 61-64.
- C.20 J. Wang and A. Sarma, *Which Bug Should I Fix: Helping New Developers Onboard A New Project*, IEEE/ACM 4th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE), May 2011, pages 76-79.
- C.19 L. A. Dabbish, P. Wagstrom, A. Sarma, and J. D. Herbsleb, *Coordination in Innovative Design and Engineering: Observations from a Lunar Robotics Project*, ACM 16th International Conference on Supporting Group Work (GROUP), November 2010, pages 225-234.
- C.18 L. Maccherone, A. Sarma, P. Wagstrom, and J. Herbsleb, *Tesseract: Interactive Environment for Exploration of Project Relationships*, Formal Research Demonstration in the 31st International Conference on Software Engineering, May 2009, pages 405-406.
- C.17 A. Sarma, L. Maccherone, P. Wagstrom, and J. Herbsleb, *Tesseract: Interactive Visual Exploration of Socio-Technical Relationships in Software Development*, Proceedings of the 31st International Conference on Software Engineering, May 2009, pages 23-33.
- C.16 A. Sarma, D. Redmiles, and A. van der Hoek, *Empirical Evidence of the Benefits of Workspace Awareness in Software Configuration Management*, ACM 16th SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), November 2008, pages 113-123.
- C.15 B. Al-Ani, E. Trainer, R. Ripley, A. Sarma, A. van der Hoek, and David Redmiles, *Continuous Coordination within the Context of Cooperative and Human Aspects of Software Engineering*, International Workshop on Cooperative and Human Aspects of Software Engineering, May 2008, pages 1-4.
- C.14 A. Sarma, G. Bortis, and A. van der Hoek, *Towards Supporting Awareness of Indirect Conflicts across Software Configuration Management Workspaces*, IEEE/ACM 22nd International Conference on Automated Software Engineering (ASE), November 2007, pages 94-103. **[Best Paper Award Nominee]**
- C.13 A. Sarma, D. Redmiles, and A. van der Hoek, *A Comprehensive Evaluation of Workspace Awareness in Software Configuration Management Systems*, Short paper in IEEE Symposium on Visual Languages and Human-Centric Computing, September 2007, pages 23-26.

- C.12 I. da Silva, M. Alvim, R. Ripley, A. Sarma, C. Werner, and A. van der Hoek, *Designing Software Cockpits for Coordinating Distributed Software Development*, First Workshop on Measurement-based Cockpits for Distributed Software and Systems Engineering Projects, August 2007, pages 14-18 (electronic proceedings).
- C.11 R. Ripley, A. Sarma, and A. van der Hoek, *A Visualization for Software Project Awareness and Evolution*, 4th International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT), June 2007, pages 137-144.
- C.10 B. Al-Ani, A. Sarma, G. Bortis, I. Almeida da Silva, E. Trainer, A. van der Hoek, and D. Redmiles, *Continuous Coordination (CC): A New Collaboration Paradigm*, CSCW Workshop on Supporting the Social Side of Large Scale Software Development, November 2006, pages 69-72.
- C.9 A. Sarma and A. van der Hoek, *Towards Awareness in the Large*, *Proceedings in the International Conference on Global Software Engineering*, October 2006, pages 127-131.
- C.8 A. Sarma, A. van der Hoek, and L-T, Cheng, *A Need-Based Collaboration Classification Framework*, Proceedings of Eclipse as a Vehicle for CSCW Research Workshop, November 2004, pages 16-20 (also available as IBM Technical Report RC23339).
- C.7 R. Ripley, A. Sarma, and A. van der Hoek, *Workspace Awareness in Application Development*, Proceedings of Eclipse Technology Exchange Workshop, October 2004, pages 17-21.
- C.6 A. Sarma and A. van der Hoek, *A Conflict Detected Earlier is a Conflict Resolved Easier*, Proceedings of the 4th Workshop on Open Source Software Engineering, May 2004, pages 82-86.
- C.5 A. van der Hoek, D. Redmiles, P. Dourish, A. Sarma, R. S. Filho, and C. de Souza, *Continuous Coordination: A New Paradigm for Collaborative Software Engineering Tools*, Proceedings of the Workshop on Directions in Software Engineering Environments, May 2004, pages 29-36.
- C.4 A. Sarma and A. van der Hoek, *Visualizing Parallel Workspace Activities*, Proceedings of the IASTED International Conference on Software Engineering and Applications, November 2003, pages 435-440
- C.3 A. Sarma, Z. Noroozi, and A. van der Hoek, *Palantir: Raising Awareness among Configuration Management Workspaces*, Proceedings of the 25th International Conference on Software Engineering, May 2003, pages 444-454.
- C.2 A. Sarma and A. van der Hoek, *Palantir: Coordinating Distributed Workspaces*, Proceedings of the Workshop on Cooperative Support for Distributed Software Engineering Processes, August 2002, pages 1093-1097.
- C.1 A. Sarma and A. van der Hoek, *Palantir: Increasing Awareness in Distributed Software Development*, Proceedings of the 2nd Workshop on Global Software Development, May 2002, pages 28-32.

#### **REFEREED NONARCHIVAL WORKSHOPS AND SYMPOSIA**

- O.18 M. Burnett, A. Sarma, C. Mendez, A. Oleson, C. Hilderbrand, Z. Steine-Hanson, and A. J. Ko, *Gender Biases In Software For Problem-Solving*, Workshop in Conjunction with VL/HCC 2018 on Designing Technologies to Support Human Problem Solving, October 2018.
- O.17 R. Leano, B. Kasi, and A. Sarma, *Recommending Task Context: Automation meets Crowd*, FSE Workshop on Context in Software Development collocated, November 2014.
- O.16 P. Wagstrom and A. Sarma, *Using Analytics to Support Decision Processes for Development and Design*, Workshop on Future of Collaborative Software Development, February 2012.
- O.15 L. Dabbish, P. Wagstrom, and A. Sarma, *Cross-Team Knowledge Exchange in an Interdisciplinary Engineering Project*, Academy of Management Annual Meeting, August 2010.

- O.14 L. Dabbish, J. Herbsleb, A. Sarma, and P. Wagstrom, *Supporting Coordination of Interdependent Work: A Constraint Network Representation*, Academy of Management Annual Meeting, August 2009.
- O.13 L. Dabbish, J. Herbsleb, A. Sarma, and P. Wagstrom, *A Network Representation of Dependencies in Engineering*, Interdisciplinary Network of Group Researchers (InGROUP 2009), July 2009.
- O.12 A. Sarma, J. Georgas, and J. Herbsleb, *Architectural Congruence: Toward Exploring the Software Development Process through an Architectural Perspective*, ICSE Workshop on Socio-Technical Congruence, May 2009.
- O.11 J. Herbsleb, L. Dabbish, P. Wagstrom, A. Sarma, *Supporting Coordination of Work*, Paper in Human Computer Interaction Consortium (HCIC), February 2009.
- O.10 P. Wagstrom, L. Dabbish, A. Sarma, and J. Herbsleb, *Understanding the Collaboration Needs of a Developing Distributed Team*, CSCW Workshop on Supporting Distributed Team Work, November 2008.
- O.9 J. Herbsleb, L. Dabbish, P. Wagstrom, and A. Sarma, *Theory and Analysis of Closely-Coupled Production Work*, CSCW Workshop on Supporting Distributed Team Work, November 2008.
- O.8 A. Sarma and J. Herbsleb, *Exploring Interrelationships among Project Entities to Support Coordination in Distributed Teams*, CSCW Workshop on Supporting Distributed Team Work, November 2008.
- O.7 A. Sarma, J. Herbsleb, A. Mockus, and M. Cataldo, *Using Distributed Constraint Satisfaction to Build a Theory of Congruence*, ICSE Workshop on Socio-Technical Congruence, May 2008.
- O.6 A. Sarma and J. Herbsleb, *Using Development Experience to Calculate Congruence*, ICSE Workshop on Socio-Technical Congruence, May 2008.
- O.5 A. Sarma, J. Herbsleb, and A. van der Hoek, *Challenges in Measuring, Understanding, and Achieving Social-Technical Congruence*, ICSE Workshop on Socio-Technical Congruence, May 2008.
- O.4 A. Sarma, *Palantir: Coordinating Distributed Software Development through Awareness*, Invited student paper in Human Computer Interaction Consortium (HCIC), January 2006.
- O.3 D. Redmiles, A. van der Hoek, A. Sarma, C. de Souza, E. Trainer, S. Quirk, and R. de Paula, *Unifying Formal and Informal Coordination through Continuous Coordination*, Paper in Human Computer Interaction Consortium (HCIC), January 2006.
- O.2 A. Sarma, *Contextualized Awareness: A Lynchpin of Software Development*, CSCW Workshop on Awareness in Activity-Centric Groupware Design, November 2006.
- O.1 A. Sarma, *Configuration Management Workspace Awareness for Distributed Software Development*, Doctoral Symposium at the European Software Engineering Conference together with ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE), September 2003.

## TECHNICAL REPORTS

- T.13 U. A. Mannan, I. Ahmed, C. Jensen, and A. Sarma, *The Evolution of Software Entropy in Open Source projects: An Empirical Study*, Technical Report, Oregon State University, 2020.
- T.12 M. Guizani, I. Steinmacher, J. Emard, A. Fallatah, M. Burnett, and A. Sarma, *How to Debug Inclusivity Bugs? An Empirical Investigation of Finding-to-Fixing with Information Architecture*, Technical Report, Oregon State University, 2020.
- T.11 V. Vinayakara, R. Purandare, S. Keswani, D. Sondhi, and A. Sarma, *Replacements and Replaceables: Making the Case for Code Variants*, Technical Report, arXiv:2006.03844, IIIT-Delhi, Oregon State University, 2020.

- T.10 C. Hilderbrand, C. Perdriau, L. Letaw, J. Emard, Z. Steine-Hanson, M. Burnett, and A. Sarma, *Engineering Gender-Inclusivity into Software: Tales from the Trenches*, Technical Report, arXiv:1905.10361, Oregon State University, 2019.
- T.9 Z. Steine-Hanson, C. Hilderbrand, L. Letaw, J. Emard, C. Perdriau, C. Mendez, M. Burnett, and A. Sarma, *Fixing Inclusivity Bugs for Information Processing Styles and Learning Styles*, Technical Report, arXiv:1905.02813, Oregon State University, 2019.
- T.8 X. Chen and A. Sarma, *Supporting Comparison of Developer Profiles across Online Communities*, Technical Report, Oregon State University, 2016.
- T.7 P. Wagstrom, C. Jergensen, and A. Sarma, *Roles in a Networked Software Development Ecosystem: A Case Study in GitHub*, Technical Report, TR-UNL-CSE-2012-0006, University of Nebraska, Lincoln, 2012.
- T.6 B. K. Kasi and A. Sarma, *A Degree of Conflict Model for Workspace Awareness*, Technical Report, TR-UNL-CSE-2011-0002, University of Nebraska, Lincoln, February 2011.
- T.5 A. Sarma, G. Bortis, and A. van der Hoek, *Cross-Workspace Impact Awareness for Early Detection of API-induced Indirect Conflicts in Configuration Management*, Technical Report, UCI-ISR-06-17, University of California, Irvine, Institute for Software Research, December 2006.
- T.4 R. Ripley, A. Sarma, and A. van der Hoek, *Using Visualizations to Analyze Workspace Activity and Discern Software Project Evolution*, Technical Report, UCI-ISR-061, University of California, Irvine, Institute for Software Research, January 2006.
- T.3 A. Sarma, *A Survey of Collaborative Tools in Software Development*, Technical Report, UCI-ISR-05-3, University of California, Irvine, Institute for Software Research, March 2005.
- T.2 A. Sarma and A. van der Hoek, *A Need Hierarchy for Team*, Technical Report, UCI-ISR-04-9, University of California, Irvine, Institute for Software Research, October 2004.
- T.1 A. Sarma and A. van der Hoek, *Visualizing Parallel Workspace Activities*, Technical Report, UCI-ISR-02-08, University of California, Irvine, Institute for Software Research, January 2003.

## INVITED PRESENTATIONS

- P. 43 Oct 2022, Inclusivity in Google, Google Research Conference (15 min)
- P. 42 Sept 2022, Engineering Inclusivity into Your Products, Technical Leads in Engineering Products, Google (50 min)
- P.41 Sept 2022, Engineering Inclusivity into Your Products, Colloquium, Simon Fraser University (60 min)
- P.40 May 2022, Engineering Inclusivity into Your Products, Keynote, Gender-Equity Workshop at ICSE 2022 (60 min).
- P. 39 Sept 2021, Mentoring at scale: Acknowledging Implicit Mentoring, Linux Plumber (30 min)
- P.38 Oct 2020, *Designing for Gender-Inclusivity Software*, invited talk at Silicon Valley Engineering Leadership Community, co-presented with Dr. Burnett (90 min)
- P.37 Sept 2020, *The State of D&I at the ASF*, ApacheCon (30 min)
- P.36 Aug 2020, *Hidden Figures: Different Roles and Success Pathways in Open Source*, speaker at Software Developer Diversity and Inclusion Workshop (15 min)
- P.35 Jan 2020, *Engineering Inclusivity into Software Products*, PDX Lunch and Learn (60 min)
- P.34 December 2019, *Gender-Inclusivity in Software Engineering*, colloquium talk at Reed College (60 min)
- P.33 October 2019, *Gender-Inclusive Software Design*, colloquium talk at University of Oregon (60 min)

- P.32 July 2019, *Is the Software Itself Gender-Biased? OSS Tools and Gender Inclusivity*, invited tech talk O'Reilly, Open-Source Software Conference (OSCON) (40 min)
- P. 31 June 2019, *Gender-Inclusivity Software Engineering*, Keynote at Software Developer Diversity and Inclusion Workshop, co-presented with Dr. Burnett (60 min)
- P.30 June 2019, *Gender Inclusivity in Software Tools and Technology*, Google Tech Talk (45 min)
- P.29 April 2019, *Gender-Inclusivity Software Engineering*, ACM SIGSFOT Webinar 2019. co-presented with Dr. Burnett (60 min)
- P.28 March 2019, *Gender inclusivity in Open-Source Software*, 7th biennial Michigan Celebration of Women in Computing Conference (MICWIC 2019); Also part of the 2019 CRA-W Distinguished Lecture Series (60 min)
- P.27 October 2018, *Gender-Inclusive Software: Facts and Fixes*, Wikimedia Tech Conference (50 min), co-presented with Dr. Burnett (50 min)
- P.26 August 2018, *Gender Biases Embedded in Open-Source Software*, invited speaker at the Linux Foundation Open-Source Summit North America (40 min)
- P.25 July 2018, *Gender Biases Embedded in Open-Source Software*, Invited talk at Mozilla (50 min)
- P.24 February 2018, *Is the Software Itself Gender-Biased? OSS Tools and More*, IBM, TJ Watson NY (50 min), co-presented with Dr. Burnett
- P.23 January 2017, *Open-Source Barriers to Entry: Are Tools Complicit in Gender Bias*, IBM, Almaden (50 min)
- P.22 Oct 2016, *Coordinating Socio-Technical Dependencies in Distributed Development*, Indraprastha Institute of Technology (50 min).
- P.21 July 2015; Keynote at Seminar Series on Advanced Techniques & Tools for Software Evolution (SATToSE 2015) (50 min)
- P.20 February 2015, University of Colorado, Boulder (50 min)
- P.19 June 2014, Dagstuhl on Software Analytics, *Dagstuhl*, Germany (15 min)
- P.18 May 2014, *Institute for Software Research* at University of California, Irvine CA, USA (20 min)
- P.17 March 2014, *North Carolina State University*, Raleigh, NC, USA (50 min)
- P.16 March 2014, *University of Illinois, Chicago*, IL, USA (50 min)
- P.15 January 2014, *University of Southern California*, Los Angeles, CA, USA (50 min)
- P.14 November 2010, *University of New Mexico*, Albuquerque, NM, USA (50 min)
- P.13 July 2010, *Microsoft Research Faculty Summit*, Redmond, WA, USA (15 min)
- P.12 March 2010, *Mining Software Archives*, Ascona, Switzerland (20 min)
- P.11 October 2009, *IBM TJ Watson Labs*, Hawthorne, NY, USA (50 min)
- P.10 July 2009, *University of Toronto*, Toronto, Ontario, Canada (50 min)
- P.9 May 2009, *University of Victoria*, Victoria, BC, Canada (50 min)
- P.8 February 2009, *North Carolina State University*, Raleigh, NC, USA (50 min)
- P.7 April 2007, *University of Wisconsin, Milwaukee*, WI, USA (50 min)
- P.6 February 2007, *Microsoft Research*, Redmond, WA, USA (50 min)
- P.5 July 2006, *University of Maryland*, Baltimore County, MD, USA (50 min)
- P.4 January 2006, *University of Colorado at Boulder*, Boulder, CO, USA (50 min)

- P.3 August 2004, *IBM Research Labs, Collaborative User Experience Group*, Cambridge, MA, USA (20 min)
- P.2 March 2004, *Federal University of Rio de Janeiro*, Rio de Janeiro, Brazil (20 min)
- P.1 January 2004, *Association for Configuration and Data Management*, Anaheim, CA, USA (50 min)

#### **COURSES TAUGHT at OSU**

CS565	Human Computer Interaction: Winter 2023
CS352	Introduction to Human-Computer Interaction: Winter 2020, Spring 2021
CS 560	Data-Driven Software Engineering: Spring 2016, Spring 2017, Winter 2019, Fall 2020
CS569/567	Laboratory Studies in SE and HCI: Spring 2016, Winter 2017, Spring 2018, Fall 2019, Fall 2021
CS419/579	Usable Security: Spring 2019, Winter 2020, Winter 2021
CS 519	Sensemaking in Software Development, Winter 2016
CS 361	Software Engineering: Fall 2015, Winter 2017, Fall 2017

#### **COURSES TAUGHT at UNL**

CSCE 496/896	Coordination in Global Software Development, Fall 2009, Spring 2015
CSCE 378(H)	Human Computer Interaction, Spring 2010, 2011, 2012, 2013
CSCE 361	Software Engineering, Fall 2011, 2012, 2013, 2014
CSCE990	Empirical Software Engineering, Fall 2010, 2013; Spring 2012

#### **OTHER COURSES**

A Guided Project on “The GitHub History of the Scala Language”, A DataCamp course (13,140 participants Dec 11, 2020, <https://learn.datacamp.com/projects/163>)

#### **GRADUATE STUDENTS SUPERVISED**

##### ***Thesis Committee Chair***

Rudrajit Choudhuri	OSU, PhD (expected 2026)
Hamid Montaser	OSU, PhD (expected 2026) – co-chair
Pannapat Chanpaisaeng	OSU, MS (expected 2023)
Emily Artega	OSU, MS (expected 2023)
Neha Sajjani	OSU, MS (expected 2023)
Zixuan Feng	OSU, PhD (expected 2025)
Amreeta Chatterjee	OSU, PhD (expected 2024)
Mariam Guizani	OSU, PhD (expected 2023)
Nicholas Nelson	OSU, PhD (expected 2023)
Mahsa Saeidi	OSU, PhD (graduated 2022) – PostDoc, industry
Souti Chattopadhyay	OSU, PhD (graduated 2022) – TT Asst. prof., USC
Caius Brindescu	OSU, PhD (graduated 2020) – co-chair, industry
Umme A. Mannan	OSU, PhD (graduated 2020) – co-chair, industry
Bakhtiar K Kasi	UNL, PhD (graduated 2015) – Assoc. prof, Dean, Buitems, Pakistan
Sandeep Kuttal	UNL, PhD (graduated 2014) – TT Asst. prof. NCSU
Turguy Caglar	OSU, MS (graduated 2021)
Manideepa Sanginathan	OSU, MS (graduated 2020)
Marjan Adeli	OSU, MS (graduated 2020)
Sogol Balali	OSU, MS (graduated 2019)

Shane McKee	OSU, MEng (graduated 2016)
Kevin North	UNL, MS (graduated 2016) – co-chair
Corey Jergensen	UNL, MS (graduated 2013)
Jianguo Wang	UNL, MS (graduated 2012)

### **GRADUATE AND POST-DOCTORAL STUDENTS Mentored**

Xiaofan Chen (Post doc)	Asst. Prof. at Massey University, New Zealand
Iftekhar Ahmad (Grad student)	TT Asst. prof., UC Irvine

### ***Thesis Committee***

Puja Agarwal	OSU, MS (expected 2023)
Alexandria LeClerc	OSU, PhD (expected 2024)
Fabio Marcos De Abreu	NAU, PhD (expected 2024)
Zhendong Wang	UCI, PhD (expected 2023)
Aryal Nischal	OSU, PhD (expected 2027)
Janita Aamir	OSU, PhD (expected 2027)
Bianca Trinkenreich	NAU, PhD (graduated 2022)
Rupika Dikkala	OSU, MS (graduated 2022)
Sruti Srinivasan	OSU, PhD (graduated 2019)
Haya A. Alorajj	OSU, MS (graduated 2019)
Sara Alhamar	OSU, MS (graduated 2019)
Claudia Hilderbrand	OSU, MS (graduated 2019)
Paola R. Accioly	Federal University of Pernambuco PhD (graduated 2018)
Daniel Lin	OSU, MS (graduated 2018)
Bhargav Pandya	OSU, MS (graduated 2017)
Charles Hill	OSU, MS (graduated 2017)
Deepthi K Satish	OSU, MS (graduated 2017)
Sean Penny	OSU, MS (graduated 2017)
Shivani Wanjara	OSU, MS (graduated 2017)
Vishnupriya Rayala	OSU, MS (graduated 2017)
Catarina Costa	UFF, Brazil PhD (graduated 2017)
Lakshman Kollipara	OSU, MS (graduated 2016)
Laxmi Ganeshan	OSU, MS (graduated 2016)
Jose Ricardo Jr. da Silva	UFF, Brazil, PhD (graduated 2016)
Monika Gupta	IIITD, India, PhD (graduated 2016)
Surendar Nambirajan	OSU, MS (graduated 2016)
David Piorkowski	OSU, PhD (graduated 2016)
Rithika Kiran Naik	OSU, MS (graduated 2015)
Will Jernigan	OSU, MS (graduated 2015)
Alannah Oleson	OSU, UG (graduated 2018)
Zoe Steine-Hanson	OSU, UG (graduated 2019)
Zhongyin Zhang	UNL, MS (graduated 2014)
Andrew Mittleider	UNL, MS (graduated 2014)
Amanda Swearngin	UNL, MS (graduated 2012)
Chris Assi	UNL, MS (graduated 2012)
Katie Stolee	UNL, MS (graduated 2010)
Si Huang	UNL, MS (graduated 2010)

### **UNDERGRADUATE STUDENTS MENTORED**

Dillon Liu	OSU, expected 2027
Katie Kimura	OSU, expected 2027

Audrey Au	OSU, expected 2025
Andrea Satita Tongsak	OSU, expected 2024
Aileen A. Castro-Guzman	OSU, expected 2023
Karen Berba	OSU, expected 2022
Evie May	OSU, graduated 2021
Jett Seale	OSU, graduated 2021
Catherine Stevens	OSU, Transferred to Germany 2020
Leif Tsang	OSU, graduated 2020
Yennifer Ramirez	OSU, graduated 2020
Thien Nam	OSU, graduated 2020
McKenzie Calvert	OSU, graduated 2020
Jillian Emard	OSU, graduated 2019
Susmita Padala	OSU, graduated 2019, (Honors thesis, Adobe Women in Technology Awardee)
Umayal Annamalai	OSU, graduated 2019, (Honors thesis, best presenter award ECSCW 2018)
Alex Hoffer	OSU, graduated 2017
Zhendong Wang	UNL, graduated 2014
David Montz	UNL, graduated 2015
Caleb Larsen	UNL, graduated 2013
Azrina Azmi Abdullah	UNL, graduated 2013
Megan Jensen	UNL, graduated 2013
Brad Hoff	UNL, graduated 2013
James Sukup	UNL, graduated 2012
Josh Branchaud	UNL, graduated 2011
Corey Jergensen	UNL, graduated 2010

## HIGH SCHOOL STUDENTS MENTORED

Srivanth Dodda	ASE Program, 2020
Emma Di	ASE Program, 2020
Jimena Noa Guierva	ASE Program, 2020, NCWIT Aspirations in Computing Award
Liam Russel	ASE Program, 2020
Audrey Au	ASE Program, 2019, 2020, NCWIT Aspirations in Computing Award
Anusha Vasudevan	ASE Program, 2019
Natalia Morales	ASE Program, 2019
Annel Amelia Leon	ASE Program, 2018, Undergraduate in Stanford

## PROFESSIONAL SERVICE

### *Editorial Board and Conference Organization*

- Graduate Consortium Chair: IEEE Symposium on Visual Languages & Human Centered Computing (VL/HCC), 2015, 2016, 2023
- Workshop Committee co-Chair: International Conference on Software Engineering: 2022
- General Chair: Cooperative and Human Aspects of Software Engineering (CHASE) conference: 2021
- Program Committee co-Chair: International Conference on Program Comprehension, ICPC: 2021
- Program Committee co-Chair: International Conference on Software Engineering, SEIS: 2020
- Committee co-chair for FSE 2020 test time of award.
- Program Committee co-Chair: International Conference on Software Engineering, NIER track: 2019
- Program Committee co-Chair: International Conference on Global Software Engineering (ICGSE): 2017
- Program Committee co-Chair: IEEE Symposium on Visual Languages & Human Centered Computing (VL/HCC): 2017
- Workshop Chair: ACM/IEEE International Conference on Automated Software Engineering (ASE): 2015
- Guest editor, Special Issue on *Software Engineering from a Social Network Perspective*, Springer Open Journal of Internet Services and Applications (JISA), 2015

- Formal Demonstration Chair: ACM/IEEE International Conference on Software Engineering (ICSE): 2014
- Student Volunteer Chair: Foundations of Software Engineering (FSE): 2010
- *Editorial Board* for Transactions on Software Engineering: 2019-present
- *Steering Committee*: Workshop on Cooperative and Human Aspects of Software Engineering (CHASE): 2017-present
- Student Volunteer Chair: ACM SIGSOFT Foundations of Software Engineering (FSE): 2010
- *Co-director*: GenderMag Project

#### *Workshop organizer*

- International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE) – 2015, 2016, 2017
- The Future of Collaborative Software Development at CSCW – Feb 12, 2012
- Workshop on Supporting Distributed Teamwork at CSCW – Nov 9, 2008
- Workshop for SCALE (Social Coordination Across Large Environments) group – Sept. 6-7, 2012

#### *Program Committee member<sup>1</sup>*

- ACM/IEEE International Conference on Software Engineering (ICSE): 2011, 2015 (RC), 2016 (PB), 2018 (PC), 2019 (PC), 2021, 2024
- ACM SIGSOFT Foundations of Software Engineering (FSE): 2019, 2020, 2021, 2023
- IEEE/ACM International Conference on Program Comprehension (ICPC): 2020
- ACM/IEEE International Conference on Software Engineering, *Doctoral Symposium*: 2020
- IEEE International Conference on Global Software Engineering (ICGSE): 2007, 2013, 2014, 2015, 2016, 2018, 2019, 2020
- IEEE International Symposium on Visual Languages & Human Centered Computing (VL/HCC): 2013, 2014, 2015, 2016, 2018, 2019
- IEEE International Symposium on Visual Languages & Human Centered Computing (VL/HCC) *Doctoral Symposium*: 2014, 2017, 2018, 2019
- ACM/ IEEE International Conference on Automated Software Engineering (ASE): 2011, 2012, 2015, 2017, 2018
- IEEE/ ACM International Conference on Mining Software Repository (MSR): 2010, 2015, 2016, 2017
- IEEE International Conference on Software Maintenance Evolution (ICSME): 2017
- ACM/ IEEE International Conference on Software Engineering, Research Demonstration track (ICSE): 2015
- India Software Engineering Conference (ISEC): 2014, 2015
- International Symposium on End-User Development (ISEUD): 2013, 2015, 2017
- ACM/ IEEE International Conference on Software Engineering, New Ideas and Emerging Results (NIER) track: 2013
- ACM/IEEE International Conference on Software Engineering (ICSE) - Student Research Competition 2012
- ACM Conference on Supporting Group Work (GROUP): 2010
- ACM SIGSOFT Foundations of Software Engineering, Research Demonstration track (FSE): 2010
- IASTED International Conference on Software Engineering and Applications (SEA): 2003
- Mini track on Concepts, Methods, and Tools for Collaborative IS Development at HICCS: 2009
- Workshop on Cooperative and Human Aspects of Software Engineering (CHASE) at ICSE: 2008, 2009, 2011, 2012, 2013, 2014, 2018, 2019, 2020
- Workshop on Crowd Sourcing in Software Engineering (CSI-SE): 2014, 2017, 2018
- Workshop on Data Analysis Patterns in Software Engineering at ICSE: 2013
- Workshop on User Evaluations for Software Engineering Researchers (USER) at ICSE: 2013
- Workshop on Socio-Technical Congruence (STC) at ICSE: 2008, 2009
- Workshop on Infrastructure for Research in Collaborative Software Engineering at FSE 2008
- Workshop on Knowledge Engineering in GSD at ICGSE: 2009
- Workshop on Future of Collaborative Software Development at CSCW: 2012

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<sup>1</sup> Workshops where I was a program committee member are listed at the end and ordered chronologically

### *Journal Reviews*

- Journal on Software Systems (JSS): 2008, 2009, 2020, 2023
- Journal of Empirical Software Engineering (ESE): 2008, 2009, 2010, 2014, 2018, 2019, 2021, 2022, 2023
- IEEE Transactions on Software Engineering (TSE): 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- ACM Transactions on Software Engineering and Methodology (TOSEM): 2011, 2021
- Communications of the ACM (CACM) – 2012, 2020, 2021
- ACM Transactions on Computer Human Interactions (TOCHI) – 2012, 2019
- IEEE Software: 2018, 2019, 2020
- Elsevier Journal of Science of Computer Programming (SCICO): 2020
- ACM Journal of Computer Supported Cooperative Work (CSCW): 2008, 2017, 2018
- ACM Transactions on Education (TE): 2014
- User Modeling and User-Adapted Interaction: The Journal of Personalization Research, Springer Verlag publishing: 2010
- IEEE Transactions on Software Engineering, Special issue on Socio-Technical dependency (TSE): 2009
- Software: Practice and Experience, Wiley Journal: 2009
- IEEE Software, Special Issue on Cooperative and Human Aspects of Software Engineering: 2009
- IEEE Software, special issue on Data Mining: 2008
- Journal of Software Maintenance and Evolution: Research and Practice: 2008
- International Journal of Human-Computer Studies: 2007
- Journal of Zhejiang University Science A – Applied Physics and Engineering: 2007

### *Additional Conference Reviews*

- Computer Supported Cooperative Work (CSCW): 2008, 2010, 2011, 2012, 2019, 2020
- Computer Human Interaction (CHI): 2008, 2009, 2010
- Book Chapter in Collaborative Software Engineering: 2008

### *NSF Reviews*

- NSF panel reviewer: 2012, 2013, 2014, 2015, 2020, 2021
- NSF ad hoc reviewer: 2010

### *Other*

- IEEE TCSE Distinguished Women in Science and Engineering (WISE) Leadership Award, 2023
- ACM SIGSOFT Outstanding Research Award selection committee: 2019-2020
- ACM SIGSOFT Early Career Researcher Awards Committee: 2019-2020
- Co-Director of GenderMag.org: 2018-present
- Steering Committee: International Conference on Program Comprehension (ICPC): 2021-present
- Steering Committee: International Conference on Cooperative and Human Aspects of Software Engineering (CHASE): 2017-present
- Steering Committee: International Conference on Global Software Engineering (2016-2018)
- Director of End Users Shaping Effective Software (EUSES) consortium: 2015-2017
- Executive committee member of End Users Shaping Effective Software (EUSES) consortium, which includes eight universities and two industrial collaborators (2013-2015)
- Big Red Summer Camp on 3D Animation and Virtual World Creations: using Alice; 2011

## **OUTREACH ACTIVITIES**

### *Panelists*

- Invited Panel: Gender Equality Workshop, collocated with ICSE, May 2019
- New Faculty Symposium, International Conference on Software Engineering (ICSE), May 2013
- Graduate Student Research Symposium, University of California, Irvine, June 2006
- Graduate School Information Panel, Women in Computer Science (WICS), University of California, Irvine, April 2006

### *CS Summer Camp Instructor*

- Big Red Summer Camp on “3-D Animation and Virtual World Creation” as part of Nebraska 4H Youth Development Program, June 12-17, 2011
- COSMOS (California State Summer School for Mathematics & Science, UCI); “Cluster 5 - Introduction to Computer Science”, June 20-25 2005

### *Program Committee Member*

- Program Workshop and Panel committee for Grace Hopper (Women in Computer Science) Conference, 2012

### *Outreach Encouraging Students to Pursue CS Careers*

- SWE Merit Certificate program for High Schoolers, 2017-2020
- Saturday Academy ASE mentor for High Schoolers (2018 – 2020)
- Participated as a mentor in the Hour of Code Workshops as part of the Nebraska Women in Science Conference (2015).
- Founded and guiding the ACM-W chapter for Women in Computer Science in the Computer Science Department at UNL, 2015.
- Designed and guided the implementation of *Kinection* – an application that allows users to paint (Jackson Pollock-style) by using gesture-detection software implemented through Microsoft Kinect. The objective of the application is to make science and art interesting to middle- and high-school students. The application was used as an interactive exhibit at the Sheldon Museum – a nationally accredited museum in Nebraska (June 2013), where it was very popular with youth and children. Since then, our department has showcased the application during recruitment activities. It has also been presented at the MINK WIC (Missouri, Iowa, Nebraska, Kansas Women In Computing) event held in Kansas City (2013), at the UNL Middle School College Access outreach program (2014), and at the TEDxYouth program geared towards high school students in Lincoln. The application has also been requested to be showcased at the Walton School Art Show in Wakefield, Massachusetts.
- As part of the BRAID (Building Recruiting And Inclusion for Diversity) program, a consortium of fifteen universities to increase diversity in Computer Science, I took a group of fifteen CS students to attend the Grace Hopper Conference, October 2014.
- Visited middle schools in Lincoln area as part of NCWIT (National Center for Women in Information Technology) GEM (Girl Empowerment and Mentoring) program to encourage middle school students to pursue careers in computer science, February 2012.
- Judged essays as part of NCWIT GEM program, where middle school students are paired with undergraduate students who mentor the (middle school) students in writing essays on a technology related topic and the winner is provided a scholarship for attending the CSE department – March 2011, 2012.
- Participated in MINK - WIC (Minnesota, Indiana, Nebraska, Kansas - Women in Computing) career fair, Kansas City, MI, October 2011.
- Participated in “Ask a Scientist Night” to encourage middle school students to pursue careers in computer science at Irvine, October 2006, 2007.
- Invited talk at Brea Olinda High School to encourage high-school students to pursue career in computer science at Brea, CA, USA, February 2006.

### **DEPARTMENT SERVICE (OSU)**

2022, 2021, 2018, EECS Search committee  
2015

2021 COE, web redesign Project Advisory Committee  
2019-2020 Search Committee Chair (Broad CS)

2018-2019	Search Committee (Bend Campus)
2017 – present	SE/HCI area chair
2016 – 2021	Dossier committee
2015 – 2019	Graduate committee
2018 – present	Tiger Team for faculty recruitment

#### **DEPARTMENT SERVICE (UNL)**

2014-2015	Diversity committee
2014- 2015	Graduate Admissions committee
2013 – 2014	CSE Grad Day recruitment event - ESQuaRED faculty lead
2011 – 2015	Graduate Recruiting and Outreach committee
2012	Search committee on <i>Management of Big Data</i>
2012	Search committee on <i>Computational Nanotechnology</i>
2012 – 2013	CSE Colloquium chair
2012 – 2014	Graduate CS Curriculum committee
2010	Panel member for a NASA funded workshop for undergraduates on Careers in Research
2010 – 2012	CSE graduate recruitment day presentation on Software Engineering topics
2009 – 2012	Graduate Admissions committee

#### **PROFESSIONAL AFFILIATIONS**

2015 – Present	Society of Women Engineers (SWE)
2002 – Present	Member of Association for Computing Machinery (ACM)
2002 – Present	Association for Computing Machinery Special Interest Group on Software Engineering (ACM SIGSOFT)
2001 – Present	Institute of Electrical and Electronics Engineers (IEEE)
2011 – 2018	End Users Shaping Effective Software (EUSES) consortium, which includes nine universities and two industry partners.