

Anita Sarma

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RESEARCH AREAS: human factors in software engineering; human computer interaction, end-user programming; distributed software development

EDUCATION

- 2002 – 2007 Doctor of Philosophy in Computer Science
University of California, Irvine
Dissertation Title: *Palantír: 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

- 2015 – present Associate Professor
Oregon State University
School of Electrical Engineering and Computer Science
- 2015 – present Adjunct Associate Professor
University of Nebraska, Lincoln
Department of Computer Science and Engineering
- 2009 – 2015 Assistant Professor
University of Nebraska, Lincoln
Department of Computer Science and Engineering
- 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
Graduate Research Assistant (2001 – 2007)
Teaching Assistant (2000 – 2001)
- Summer 2004 IBM Research Labs, Collaborative User Experience Group, Cambridge, MA
Intern
- Summer 2001 University of California, Irvine
COSMOS (California State Summer School for Mathematics and Sciences)

Instructor of Record

1998 – 2000 IMRglobal Limited, Mumbai, India
Module Leader (February 2000 – July 2000)
Programmer and Analyst (August 1998 – February 2000)

Jan – Jul 1998 Industrial Development Bank of India, Mumbai, India
Intern

RESEARCH FUNDING

2018 NSF: “CHS: SHF: SMALL: Collaborative Research: Scaffolding skill acquisition to onboard OSS ecosystems”, **(PI)** - \$250,000; 09/01/2018-08/31/21.

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.

2013 NSF: “HCC: Large: Collaborative Research: Variations to Support Exploratory Programming”, **(PI)** - \$857,156; 08/01/2013 – 07/31/2017.

2013 NSF, “SHF: CAREER: Conflict Minimization in Distributed Software Development”, **(PI)** - \$500,000; 05/15/2013 – 05/14/2018.

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.

2011 NSF, "HCC: Large: Collaborative Research: Large-Scale Human-Centered Coordination Systems to Support Interdependent Tasks in Context", **(PI)** - \$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, **(one of five co-PIs)** - \$3,955,290; 10/01/2010 – 9/30/2014.

2010 NSF, “SHF: Supporting Continuous Awareness and Exploration of Social and Design Dependencies”, **(PI)** - \$166,143; 08/15/2010 – 08/14/2013.

2010 UNL, Layman award - “Characterizing Software Conflicts in Distributed Development”, **(PI)** - \$6,600; 06/01/2010 – 05/31/2011.

2009 IBM JAZZ Innovation Grant (**co-PI**), CMU - \$44,000; 06/01/2008 – 05/31/2009.

OTHER FUNDING

2016 NSF: “HCC: WORKSHOP: VL/HCC 2016 Graduate Consortium”, **(PI)** - \$28,810; 07/01/2016 – 06/30/2017

2015 NSF: “HCC: WORKSHOP: VL/HCC 2015 Graduate Consortium”, **(PI)** - \$26,034; 07/01/2015 – 06/30/2016.

2010 NSF, “CCF: Student Volunteer Scholarship: Broadening Participation through Student Volunteers at FSE”, **(PI)** - \$13,170; period: 09/01/2010 – 08/31/2012.

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

- 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. 10 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), February 2019.
- J. 9 S. K. Kuttal, A. Sarma, G. Rothermel, Z Wang, “*What Happened to My Application? Helping End Users Comprehend Evolution through Variation Management*”, Information and Software Technology Journal, Elsevier, 2018, 27(3-6): 679-714.
- J.8 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, 103: 55-74
- J.7 Jose Ricardo da Silva Junior, Esteban Clua, Leonardo Murta and Anita Sarma, *Dominoes, Exploratory Data Analysis of Software Repositories in Apache Derby*, International Journal of Software Engineering & Knowledge Engineering, 2015, 25(51).
- J.8 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): 9.
- 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): 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): 889-908.
- J.3 A. Sarma, D. F. Redmiles, and A. van der Hoek, *Categorizing the Spectrum of Coordination Technology*, IEEE Computer, June 2010, 43(6): 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): 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): S28-S38.

BOOK CHAPTERS

- B.2 A. Sarma, *Coordination Technologies*, book chapter on graduate handbook for software engineering, Springer-Verlag/Computer Science Editorial (accepted)
- B.1 A. Sarma, B. Al-Ani, E. Trainer, R.S. Silva Filho, I. da Silva, D. Redmiles, 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, pp. 153-178.

REFEREED CONFERENCE PUBLICATIONS

- C.35 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 International Conference on Software Engineering, May 2019 (accepted)
- C. 34 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 (to appear)
- C. 33 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, May 2018, pp. 1004-1015.
- C. 32 I. Ahmed, C. Brindescu, U. A. Mannan, C. Jensen, and A. Sarma, *An Empirical Examination of the Relationship between Code Smells and Merge Conflicts*. ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM), November 2017, pp. 58-67
- C. 31 S. McKee, N. Nelson, A. Sarma, and D Dig. *Software Practitioner Perspectives on Merge Conflicts and Resolutions*. ICSME 2017: 467-478 [**TCSE Distinguished Paper Award**]
- C. 30 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), October 2017, pp. 67-71
- C. 29 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, pp. 297-301
- C. 28 S. Ragavan, B. Pandya, D. Piorkowski, C. Hill, S. K. Kuttal, A. Sarma, M. Burnett, *PFIS-V: Modeling Foraging Behavior in the Presence of Variants*. ACM SIGCHI Conference on Human Factors in Computing Systems, May 2017, pp. 6232-6244
- C. 27 C. G. Hill, M. Haag, A. Oleson, C. J. Mendez, N. Marsden, A. Sarma, M. M. Burnett, *Gender-Inclusiveness Personas vs. Stereotyping: Can We Have it Both Ways?* ACM SIGCHI Conference on Human Factors in Computing Systems, May 2017, pp. 6658-6671 [**Honorable Mention**].
- C. 26 V. Vinayakarao, A. Sarma, R. Purandare, S. Jain, and S. Jain, *ANNE: Improving Source Code Search using Entity Retrieval Approach*, ACM International Conference on Web Search and Data Mining, February 2017, pp. 211-220

- C. 25 N. Nelson, A. Sarma, and A. v.d. Hoek, *Towards an IDE to Support Programming as Problem-Solving*, PPIG, July 2017.
- C. 24 C. Costa, J. Figueiredo, L. Murta, and A. Sarma, *TIPMerge, recommending developers for merging branches*, ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), Demonstration track, November 2016, pp. 998-1002.
- C. 23 A. Sarma, M. A. Gerosa, I. Steinmacher, R. Leano, *Training the future workforce through task curation in an OSS ecosystem*, ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), Visions Track, November 2016: 932-935
- C. 22 C. Costa, J. Figueiredo, L. Murta, and A. Sarma, *TIPMerge: Recommending Experts for Integrating Changes across Branches*, ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), November 2016, pp. 523-534.
- C. 21 A. Sarma, X. Chen, S. Kuttal, L. Dabbish, and Z. Wang, *Hiring in the Global Stage: Profiles of Online Contributions*, IEEE International Conference on Global Software Engineering, August 2016, pp. 1-10 [**Best Paper Award**].
- C.20 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, May 2016, pp. 3509-3521[**Best Paper Award**].
- C. 20 J. R. da Silva Junior, E. Clua, L. Murta, and A. Sarma, *Niche vs. Breadth: Calculating Expertise through a Fine-Grained Analysis*, IEEE International Conference on Software Analysis, Evolution, and Re-engineering (SANER), March 2015, pp. 409-418.
- C.19 K. J. North, S. Bolan, A. Sarma, and M. B. Cohen, *GitSonifier: Using Sound to Portray Developer Conflict History*, ACM/IEEE Joint Meeting on Foundations of Software Engineering (ESEC/FSE) – NIER track, November, 2015, pp. 886-889.
- C.18 J. R. da Silva Junior, E. Clua, L. Murta, and A. Sarma, *Exploratory Data Analysis of Software Repositories via GPU Processing*, International Conference on Software Engineering and Knowledge Engineering, July 2014, pp. 495-500.
- C.17 A. Sarma, J. Branchaud, M. Dwyer, S. Person, and N. Rungta, *Development Context Driven Change Awareness and Analysis Framework*, ACM/IEEE International Conference on Software Engineering: New Ideas and Emerging Results Track, May 2014, pp. 404-407.
- C.16 P. Wagstrom, C. Jergensen, and A. Sarma, *A Network of Rails: A Graph Dataset of Ruby on Rails and Associated Projects*, Conference on Mining Software Repositories, June 2013, pp. 229-232.
- C.15 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, September 2013, pp. 183-184.
- C.14 B. K. Kasi and A. Sarma, *Cassandra: Proactive Conflict Minimization through Optimized Task Scheduling*, ACM/IEEE International Conference on Software Engineering, June 2013, pp. 732-741.
- C.13 S. K. Kuttal, A. Sarma, and G. Rothermel, *Debugging Support for End-User Mashup Programming*, ACM SIGCHI Conference on Human Factors in Computing Systems, 2013, pp. 1609-1618.
- C.12 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, September 2011, pp 69-72.
- C.11 K. T Stolee, S. Elbaum, and A. Sarma, *End-User Programmers and their Communities: An Artifact-based Analysis*, ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, September 2011, pp. 147-156. [**Distinguished Paper Award**]

- C.10 C. Jergensen, A. Sarma, and P. Wagstrom, *The Onion Patch: Migration in Open Source Ecosystems*, ACM/IEEE Joint meeting of the European Software Engineering Conference and Symposium on the Foundations of Software Engineering, September 2011, pp 70-80.
- C.9 S. K. Kuttal, A. Sarma, A. Swearngin, and G. Rothermel, *Versioning for Mashups – An Exploratory Study*, International Symposium on End-User Development, June 2011, pp. 25-41.
- C.8 L. Dabbish, P. Wagstrom, A. Sarma, and J. Herbsleb, *Coordination in Innovative Design and Engineering: Observations from a Lunar Robotics Project*. Conference on Supporting Group Work, November 2010, pp. 225-234.
- C.7 A. Sarma, L. Maccherone, P. Wagstrom, and J. Herbsleb, *Tesseract: Interactive Visual Exploration of Socio-Technical Relationships in Software Development*, International Conference on Software Engineering, May 2009, pp. 23-33.
- C.6 A. Sarma, D. Redmiles, and A. van der Hoek, *Empirical Evidence of the Benefits of Workspace Awareness in Software Configuration Management*, SIGSOFT International Symposium on the Foundations of Software Engineering, November 2008, pp. 113-123.
- C.5 A. Sarma, G. Bortis, and A. van der Hoek, *Towards Supporting Awareness of Indirect Conflicts across Software Configuration Management Workspaces*, International Conference on Automated Software Engineering, November 2007, pp. 94-103. [**Nominated for Best Paper Award**]
- C.4 A. Sarma, D. Redmiles, and A. van der Hoek, *A Comprehensive Evaluation of Workspace Awareness in Software Configuration Management Systems*, Symposium on Visual Languages and Human-Centric Computing, September 2007, pp. 23-26.
- C.3 A. Sarma and A. van der Hoek, *Towards Awareness in the Large*, International Conference on Global Software Engineering, October 2006, pp. 127-131.
- C.2 A. Sarma and A. van der Hoek, *Visualizing Parallel Workspace Activities*, IASTED International Conference on Software Engineering and Applications, November 2003, pp. 435-440.
- C.1 A. Sarma, Z. Noroozi, and A. van der Hoek, *Palantír: Raising Awareness among Configuration Management Workspaces*, International Conference on Software Engineering, May 2003, pp. 444-454.

REFEREED ARCHIVAL WORKSHOPS

- W.18 U.A Mannan, I. Ahmed, and A. Sarma, *Towards Understanding Code Readability and Its Impact on Design Quality*, NL4SE workshop at FSE 2018: 18-21.
- W.17 C. J. Mendez, A. Sarma, M.M. Burnett, *Gender in Open Source Software: What the Tools Tell*. GnderEquality@ICSE 2018: 21-24.
- W.16 S. Chattopadhyay, N. Nelson, T. Nam, M. Calvert, A. Sarma, *Context in programming: an investigation of how programmers create context*, CHASE@ICSE 2018: 33-36.
- W. 15 K. J. North, A. Sarma and M. B. Cohen, *Understanding Git History: A Multi-sense View*, Eighth International Workshop on Social Software Engineering collocated with FSE, November, 2016, pp. 1- 8.
- W.14 K. Hart and A. Sarma, *Perceptions of Answer Quality in An Online Technical Question and Answer Forum*, ICSE Workshop on Cooperative and Human Aspects of Software Engineering May 2014, 103-106.
- W.13 J. C. Georgas and A. Sarma, *STCML: An Extensible XML-based Language for Socio-Technical Modeling*, ICSE Workshop on Cooperative and Human Aspects of Software Engineering, May 2011, pp. 61-64.
- W.12 J. Wang and A. Sarma, “*Which Bug Should I Fix: Helping New Developers Onboard A New Project*”, ICSE Workshop on Cooperative and Human Aspects of Software Engineering, May 2011, pp. 76-79.

- W.11 L. Maccherone, A.Sarma, P. Wagstrom, and J. Herbsleb, *Tesseract: Interactive Environment for Exploration of Project Relationships*, Formal Research Demonstration at International Conference on Software Engineering, May 2009, Companion Volume, pp. 405-406.
- W.10 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*, ICSE Workshop on Cooperative and Human Aspects of Software Engineering, May 2008, pp. 1-4.
- W.9 I. da Silva, M. Alvim, R. Ripley, A. Sarma, C. Werner, and A. van der Hoek, *Designing Software Cockpits for Coordinating Distributed Software Development*, Workshop on Measurement-based Cockpits for Distributed Software and Systems Engineering Projects, August 2007, pp. 14-18.
- W.8 R. Ripley, A. Sarma, and A. van der Hoek, *A Visualization for Software Project Awareness and Evolution*, Fourth International Workshop on Visualizing Software for Understanding and Analysis, June 2007, pp. 137-144.
- W.7 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, pp. 69-72.
- W.6 A. Sarma, A. van der Hoek, and L-T, Cheng, *A Need-Based Collaboration Classification Framework*, Eclipse as a Vehicle for CSCW Research Workshop, November 2004, pp. 16-20.
- W.5 R. Ripley, A. Sarma, and A. van der Hoek, *Workspace Awareness in Application Development*, Eclipse Technology eXchange Workshop, October 2004, pp. 17-21.
- W.4 A. Sarma and A. van der Hoek, *A Conflict Detected Earlier is a Conflict Resolved Easier*, Fourth Workshop on Open Source Software Engineering, May 2004, pp. 82-86.
- W.3 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*, Workshop on Directions in Software Engineering Environments, May 2004, pp. 29-36.
- W.2 A. Sarma and A. van der Hoek, *Palantír: Coordinating Distributed Workspaces*, Workshop on Cooperative Support for Distributed Software Engineering Processes, August 2002, pp. 1093-1097.
- W.1 A. Sarma and A. van der Hoek, *Palantír: Increasing Awareness in Distributed Software Development*, Second ICSE Workshop on Global Software Development, May 2002, pp. 28-32.

REFEREED NONARCHIVAL WORKSHOPS AND SYMPOSIA

- O.16 R. Leano, B. Kasi, and A. Sarma, *“Recommending Task Context: Automation meets Crowd”*, FSE Workshop on Context in Software Development collocated, November 2014.
- 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, *Palantír: 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.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-06-1, 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-02-8, University of California, Irvine, Institute for Software Research, Jan. 2003.

INVITED PRESENTATIONS

- 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.
- P. 27 October 2018, *Gender-Inclusive Software: Facts and Fixes*, Wikimedia Tech Conference (50 min), co-presented with Dr. Burnett
- 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

CS 569/560 Data Driven Software Engineering: Spring 2016, Spring 2017, Winter 2019

CS569/567	Laboratory Studies in SE and HCI: Winter 2017; Spring 2018
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

GRADUATE STUDENTS SUPERVISED

Thesis Committee Chair

Caius Brindescu	OSU, PhD (expected 2019), co-chair
Umme A. Mannan	OSU, PhD (expected 2020), co-chair
Nicholas Nelson	OSU, PhD (expected 2021)
Souti Chattopadhyay	OSU, PhD (expected 2021)
Mahsa Saedi	OSU, PhD (expected 2021), co-chair
Rafael Leano	OSU, PhD (expected 2018)
Mariam Guizani	OSU, PhD (expected 2022)
Sogol Balali	OSU, MS (expected 2019)
Marjan Adeli	OSU, MS (expected 2019)
Manideepa Sanginathan	OSU, MS (expected 2019)

Shane McKee	OSU, MS (graduated 2016)
Kevin North	UNL, MS (graduated 2016) – co-chair
Bakhtiar K Kasi	UNL, PhD (graduated 2015)
Sandeep Kuttal	UNL, PhD (graduated 2014) – co-chair
Corey Jergensen	UNL, MS (graduated 2013)
Jianguo Wang	UNL, MS (graduated 2012)

Thesis Committee

Haya A. Alorajj	OSU, MS (expected 2018)
Sara Alhamar	OSU, MS (expected 2018)
Claudia Hilderbrand	OSU, MS (expected 2019)
Sruti Srinivasan	OSU, PhD (expected 2020)
Kimia Tajik	OSU, PhD (expected 2020)
Abdullah Azzouni	OSU, PhD (expected 2021)
Paola R. Accioly	Federal University of Pernambuco PhD (graduated 2018)
Daniel Lin	OSU, MS (graduated 2018)
Sean Penny	OSU, MS (graduated 2017)
Shivani Wanjara	OSU, MS (graduated 2017)
Deepthi K Satish	OSU, MS (graduated 2017)
Vishnupriya Rayala	OSU, MS (graduated 2017)
Charles Hill	OSU, MS (graduated 2017)
Bhargav Pandya	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 Junior 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)

Zhongyin Zhang UNL, MS (graduated 2014)
Andrew Mittleider UNL, MS (graduated 2014)
Chris Assi UNL, MS (graduated 2012)
Amanda Swearngin UNL, MS (graduated 2012)
Si Huang UNL, MS (graduated 2010)
Katie Stolee UNL, MS (graduated 2010)

UNDERGRADUATE STUDENTS MENTORED

Yennifer Ramirez OSU, expected 2019
Thien L. Nam OSU, expected 2021
McKenzie Calvert OSU, expected 2020
Jillian R. Emard OSU, expected 2019
Umayal Annamalai OSU, expected 2019
Susmita Padala OSU, expected 2019
Alex Hoffer OSU, EECS funded, graduated 2017

Zhendong Wang UNL, NSF funded, graduated 2014
David Montz UNL, REU funded, graduated 2015
Hardik Patel UNL, graduated 2014
Caleb Larsen UNL, REU funded, graduated 2014
Azrina Azmi UNL, graduated 2013
James Sukup UNL, UCARE** funded, graduated 2012
Brad Hoff UNL, graduated 2012
Josh Branchaud UNL, UCARE funded, graduated 2011
Corey Jergensen UNL, graduated 2010

* REU: Research Experience for Undergraduates sponsored by NSF

** UCARE: Undergraduate Creative Activities and Research Experiences program at UNL

HIGH SCHOOL STUDENTS MENTORED

Annel Amelia Leon ASE Program, graduated going to Stanford

PROFESSIONAL SERVICE

Editorial Board and Conference Organization

- Editorial Board for Transactions on Software Engineering: 2019-present
- Workshop Committee co-Chair: International Conference on Software Engineering: 2022
- Program Committee co-Chair: International Conference on Software Engineering, SEIS: 2020
- Program Committee co-Chair: International Conference on Software Engineering, NIER track: 2019
- Program Committee co-Chair: International Conference on Global Software Engineering (VL/HCC): 2017
- Program Committee co-Chair: Visual Languages & Human Centered Computing (VL/HCC): 2017
- Graduate Consortium Chair: Visual Languages & Human Centered Computing (VL/HCC), 2015, 2016
- Workshop Chair: 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: International Conference on Software Engineering (ICSE): 2014
- Student Volunteer Chair: Foundations of Software Engineering (FSE): 2010

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 Team Work at CSCW – Nov 9, 2008
- Workshop for SCALE (Social Coordination Across Large Environments) group – Sept. 6-7, 2012

Program Committee member¹

- ACM SIGSOFT Foundations of Software Engineering (FSE): 2019
- ACM/IEEE International Conference on Software Engineering (ICSE): 2011, 2015 (RC), 2016 (PB), 2018 (PC), 2019 (PC)
- ACM/ IEEE International Conference on Automated Software Engineering (ASE): 2011, 2012, 2015, 2017, 2018
- IEEE International Conference on Global Software Engineering (ICGSE): 2007, 2013, 2014, 2015, 2016, 2018
- IEEE International Symposium on Visual Languages & Human Centered Computing (VL/HCC): 2013, 2014, 2015, 2016, 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
- 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

Journal Reviews

- IEEE Software: 2018
- ACM Journal of Computer Supported Cooperative Work (CSCW): 2008, 2017, 2018
- IEEE Transactions on Software Engineering (TSE): 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018
- ACM Transactions on Education (TE): 2014
- Journal of Empirical Software Engineering (JESE): 2008, 2009, 2014
- Communications of the ACM (CACM) – 2012
- ACM Transactions on Computer Human Interactions (TOCHI) – 2012
- ACM Transactions on Software Engineering and Methodology (TOSEM): 2011
- Journal on Empirical Software Engineering (ESE): 2008, 2009, 2010

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

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

NSF Reviews

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

Other

- ACM SIGSOFT Early Career Researcher Awards Committee: 2019-present
- 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)

OUTREACH ACTIVITIES

Panelists

- 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

- 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 *Kinect* – 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)

2016 – 2019	Dossier committee
2015 – 2019	Graduate committee
2018 – present	Tiger Team for faculty recruitment
2015	Search committee

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)
2011 – Present	End Users Shaping Effective Software (EUSES) consortium, which includes nine universities and two industry partners.
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)