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Department of Computer Science,
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EDUCATION:

Ph.D., 1994, Computer Science, Rutgers University. Thesis: *Software Information Systems*. Advisor: Professor Alex Borgida.

M.S., 1979, Computer Science, Rutgers University. Thesis: *Switching System Design & Sorting Algorithms: Some Parallels*. Advisor: Professor Dave Wilkens.

B.Tech., 1977, Electrical Engineering, Indian Institute of Technology, Madras, India.

AREAS OF INTEREST:

Naturalness of Software, Mining software repositories, Empirical software engineering.

MAJOR AWARDS & RECOGNITIONS: *(Most Relevant First.)*

1. **ACM Fellow**, Selected Winter 2018. Citations Reads: "*For contributions to using software data and meta-data to improve software tools and processes*"
2. **IEEE Computer Society Harlan Mills Award**, USA, 2024 for *"For impactful contributions to the statistical modelling of source code and development practices, to improve software tools and processes."*
3. **UC Davis Graduate Mentoring Award**, 2023 Given annually by the University of California, Davis in recognition of Outstanding Graduate Advising & Mentoring.
4. **Alexander von Humboldt *Forschungspreis* (Senior Research Award)**, Alexander von Humboldt Foundation, Germany, 2023 for *"Outstanding Achievements in Software Engineering"*
5. **Most Influential Paper Award**, for the paper "On the Naturalness of Software", published in ICSE 2012, Awarded at ICSE 2022
6. **ACM SIGSOFT Outstanding Research Award, 2021**, *"...for profoundly changing the way researchers think about software by exploring connections between source code and natural language"*. From the citation page[1]: *"This award is presented to an individual or individuals who have made significant and lasting research contributions to the theory or practice of software engineering."*. Previous winners include Barry Boehm, Niklaus Wirth, Harlan Mills, and David Harel.
7. *at SIGSOFT ESEC FSE 2021*, **Test of Time Award**, for the paper "Don't Touch my Code! Examining the Effects of Ownership on Software Quality" published in SIGSOFT FSE 2011.
8. *at SIGSOFT ESEC FSE 2019*, **Test of Time Award**, for the paper "Fair & Balanced? Bias in bug-fix datasets" published in SIGSOFT FSE 2009.
9. *at ISSRE 2019* The 2009 paper "Putting it all together: Using socio-technical networks to predict failures" listed in **Highlights from 30 years of ISSRE**
10. *at MSR 2019*, **10-year Most Influential Paper Award**, for the paper "Promises & Perils of mining Git" published in MSR 2009.
11. *at SIGSOFT ESEC FSE 2018*, **Test of Time Award**, for the paper "Latent Social Structure in Open Source Software Proejcts, published in SIGSOFT FSE 2008.
12. *at MSR 2016*, **10-year Most Influential Paper Award**, for the paper "Mining Email Social Networks" published in MSR 2006.

[1] `https://www.sigsoft.org/awards/outstandingResearchAward.html`

13. *MSR 2025* paper on "Can LLMs Replace Manual annotation of software engineering artifacts," ACM SIGSOFT Distinguished Paper Award
14. *ICSE 2015, NIER* paper on "Naturalness of Software" Best Paper award.
15. *ICSE 2013*, paper on Dual Ecological Measures of Ownership, ACM SIGSOFT Distinguished Paper award.
16. *ASE 2011*, paper on Ecological Inference in Empirical Software Engineering, ACM SIGSOFT Distinguished Paper award.
17. *ASE 2011*, paper on Ecological Inference in Empirical Software Engineering, Best paper award.
18. *MSR 2010* Best paper award.
19. *ICSE 2009* paper on distributed development, ACM Distinguished Paper award, also the first software engineering paper to appear in *CACM Research Highlights*.
20. *ICSE 2004* paper on the JDBC checker: winner of an ACM Distinguished Paper Award.

POSITIONS HELD:

2022 (November) - Present	*Distinguished Research Professor*, Department of Computer Science, University of California, Davis, CA 95616.
2021 (July) - 2022 (November)	*Distinguished Professor*, Department of Computer Science, University of California, Davis, CA 95616.
2005 (July) - 2021 (June)	*Professor*, Department of Computer Science, University of California, Davis, CA 95616.
2000 (July) - 2005 (June)	*Associate Professor*, Department of Computer Science, University of California, Davis, CA 95616.
1998-2000 (June)	*Assistant Professor*, Department of Computer Science, University of California, Davis, CA 95616.
1995-1997	*Principal Member of Technical Staff*, Information Systems and Services Laboratory, AT&T Laboratories–Research, Murray Hill, NJ.
1984-1995	*Member of Technical Staff*, Software and Systems Research Laboratory, AT&T Bell Laboratories–Research, Murray Hill, NJ.
1982-1984	*Member of Technical Staff*, Software Systems Laboratory, AT&T Bell Laboratories, Piscataway, NJ.
1979-1982	*Member of Technical Staff*, Software Development, Perkin-Elmer Corporation.

PUBLICATIONS:

JOURNAL PUBLICATIONS

J.1. SynShine: Improved Fixing of Syntax Errors Ahmed, T., Ledesma, N., Devanbu, P., *IEEE Transactions on Software Engineering*, 2022

J.2. Jesse, K., Devanbu, P., Sawant, A., Learning to predict user-defined types, *IEEE Transactions on Software Engineering*, 2022

J.3. Ahmed, T.., Devanbu P., and Sawant, A, Learning to find library calls in Optimized Binaries, *IEEE Transactions on Software Engineering*, 2022

J.4. Casalnuovo, C., Lee, K., Wang, H., Devanbu, P., and Morgan, E., Do Programmers Prefer Predictable Expressions in Code?, *Cognitive Science*, 44(12), 2020.

J.5. Ahmed, T.., Devanbu P., and Hellendoorn V., Learning lenient parsing & typing via indirect supervision, *Empirical Software Engineering* 26 (2), 2021, pages 1-31.

J.6. Kavaler, D., Devanbu, P., Filkov, V., Whom are you going to call? Determinants of @mentions in Github discussions, *Empirical Software Engineering Journal*, 2019

J.7. Liao, J., Yang, G., Kavaler, D., Filkov, V., Devanbu, P., Status, identity, and language: A study of issue discussions in GitHub *PLOS One*, 14(6), 2019, pages 1-20.

J.8. Casalnuovo, C., Sagae, K., and Devanbu, P., Studying the Difference Between Natural and Programming Language Corpora *Empirical Software Engineering Journal*, 24(4), 2019, pages 1823-1868.

J.9. Devanbu, P., Zimmerman, T., and Bird, C., Belief and Evidence in Empirical Software Engineering, *IEEE Software*, 35(6), 2018, pages 72-76.

J.10. Allamanis, M., Barr, E.T., Devanbu, P., Sutton, C., A Survey of Machine Learning for Big Code and Naturalness, *ACM Computing Surveys*, 51(4), 2018, pages 81:1-8:37.

J.11. Allamanis, M., Barr, E.T., Bird, C., Devanbu, P., Marron, M, Sutton, C., Mining Semantic Loop Idioms, *IEEE Transactions On Software Engineeering*, 44(7), 2018, pages 651-668.

J.12. Ray, B., Posnett, D., Devanbu, P., and Filkov, V., A Large Scale Study of Programming Languages and Code Quality in Github *Research Highlights, Communications of the ACM*, 60(10) October 2017, pages 91-100.

J.13. Hindle, A., Barr., E., Gabel, M., Su, Z., Devanb, P., On the "Naturalness" of software, *Research Highlights, Communications of the ACM*, 59(3), May 2016. Pages 122-131.

J.14. Xuan, Q., Devanbu, P., and Filkov, V., Converging Work-Talk patterns in Online Task-Oriented Communities, 2016, PLoS One Journal, 11(5), Pages 1-20.

J.15. Hassan, A., Hindle, A., Runeson, P., Shepperd, M., Devanbu, P., Kim, S., What's next in Software Analytics. *IEEE Software*, 30(4), 2013, pages 53-56.

J.16. Rahman, F., Bird, C., Devanbu, P., Clones: What *is* that smell? accepted to *Empirical Software Engineering, an International Journal* 17(4-5) 2012 *Springer-Verlag*, pages 503-530.

J.17. Posnett, D., Bird, C., Devanbu, P., An Empirical Study on the Influence of Pattern Roles on Change-Proneness, *Empirical Software Engineering, an International Journal* 16(3), 2011 *Springer-Verlag* pages 396-423

J.18. Bird, C., Nagappan, N., Devanbu, P., Gall, H., and Murphy, B., Does Distributed Development Affect Software Quality? An Empirical Case Study of Windows Vista, *Research Highlights, Communications of the ACM*, August, 2009. Revised version of ICSE 2009 paper (see below).

J.19. Filkov, V., Saul, Z.M., Roy, S., D'Souza, R.M., and Devanbu, P. Modeling and verifying a broad array of network properties *Euro-Physics Letters*, 86 (2009) 28003

J.20. Jackson, Stoney, Devanbu, P., Ma, K-L., Scalable, Flexible, Pretty Printing, *Science of Computer Programming*, 72(1), June 2008.

J.21. Wasserman, G, Gould, S., Su, Z., and Devanbu, P, "Static Checking of Dynamically Generated Queries in Database Applications", accepted to *ACM Transactions on Software Engineering*.

J.22. Wohlstadter E., Devanbu, P., and Jackson, S., "Aspect-Oriented Development of Cross-cutting Features in Distributed, Heterogeneous Systems", accepted to *Transactions on Aspect-Oriented Software Development*, *Springer-Verlag*, 2006

J.23. Martel, C., Nuckolls G., Devanbu, P., Gertz, M, " A General Model for Authentic Data Publication". *Algorithmica*, Vol. 39, No. 4, 2004.

J.24. Devanbu, P., Gertz, M., Kwong, A., Martel, C., Nuckols, G., and Stubblebine, S.,"Flexible Authentication of XML Documents", *Journal of Computer Security*, Vol. 12 , No. 4, 2004.

J.25. Gertz, M., Kwong, A., Martel, C., Nuckolls, G., Devanbu, P., and Stubblebine, S., Databases that tell the Truth: Authentic Data Publication *Bulletin of the Technical Committee on Data Engineering*, March 2004, Vol 7, No 1.

J.26. Devanbu, P., Gertz, M., Martel, C., Stubblebine, S. , "Authentic Third-Party Data Publication", of *Journal of Computer Security,* 11(3), 2003.

J.27. Devanbu, P., Stubblebine, S., "Stack and Queue Integrity on Hostile Platforms", *IEEE Transactions on Software Engineering.,* January 2002

J.28. Devanbu, P., Stubblebine, S., Guest Editors Intruction: Software Engineering and Security, *ACM Transactions on Software Engineering and Security*, 2001

J.29. Devanbu, P., Desert Island Column , Invited guest column for *Journal of Automated Software Engineering* , 2000

J.30. Devanbu, P.T.; Perry, D.E.; Poulin, J.S. Guest editors introduction: Next generation software reuse *IEEE Transactions on Software Engineering* May 2000

J.31. Devanbu, P., "Retargetability in Software Tools" *ACM Applied Computing Review,* 2000

J.32. Devanbu, P., Stubblebine, S., "Cryptographic Verification of Test Coverage Claims", *IEEE Transactions of Software Engineering*, 2000.

J.33. Cohen, W., Devanbu, P., "Automatically Exploring Hypotheses about Fault Prediction: a Comparative Study of Inductive Logic Programming Methods" *International Journal of Software Engineering and Knowledge Engineering*, Special Issue on "Knowledge Discovery from Software Engineering Data",

J.34. Devanbu, P., "GENOA: A Language and Front-End independent Source Code Analyzer", *ACM Transactions in Software Engineering*, 1999.

J.35. Devanbu, P., Frakes W., "Extracting Formal Domain Models from Existing Code for Generative Reuse", *ACM Applied Computing Review*, 1997.

J.36. Devanbu P., Jones, M. "The Use of Description Logics in KBSE Systems", *ACM Transactions on Software Engineering*, 1997.

J.37. Devanbu P., Rosenblum, D., Wolf., A. "Generating Testing and Analysis Tools with Aria", *ACM Transactions on Software Engineering*, 1996.

J.38. Devanbu, P., Litman, D. "CLASP - a Plan Representation and Classification Scheme for a Software Information System", *Artificial Intelligence*, 1996.

J.39. Devanbu P., "On a Framework for Source Code Search Using Program Patterns", *IEEE Transactions on Software Engineering*, 1995.

J.40. Devanbu, P., Brachman, R., Selfridge P., Ballard, B., "LaSSIE - a Knowledge-Based Software Information System", special issue of the *Communications of the ACM*, containing the best papers from the *Twelfth International Conference on Software Engineering*, May 1991.

J.41. Devanbu, P., Selfridge, P., Ballard, B., Brachman, R., "LaSSIE - a Knowledge-Based Software Information System" (Same material as above) also appears in Prieto-Diaz, R., and Arango, G. (eds) IEEE Tutorial, "Domain Analysis and Software Systems Modeling", *IEEE Computer Society Press*, 1991.

J.42. Belanger, D., Brachman, R., Chen, Y.-F., Devanbu, P., Selfridge P., "Progress towards a Software Information System", *AT&T Technical Journal*; Summer/Fall 1990.

J.43. Devanbu, P., Selfridge, P., Ballard, B., Brachman, R., "A Knowledge-Based Software Information System", (originally appearing Proceedings of the *International Joint Conference in Artificial Intelligence 89*, Detroit, August 1989), in "Automating Software Design", R. McCartney and M. Lowry (Eds), *MIT Press*; Winter 1990.

J.44. Agrawal, R., Devanbu, P. "Selections in Linear Least Fixpoint Queries", Special section of *IEEE Transactions on Data and Knowledge Engineering* 1(4), December 1989, featuring the best papers from the *Fourth* and *Fifth IEEE Conferences on Data Engineering*.

CONFERENCE PUBLICATIONS

Summary: *Some conferences are selective, with rigorous peer review, and archival published proceedings, they are numbered in bold.*

C*.1. Virk, Y., Devanbu, P., Ahmed, T., Calibration of Large Language Models for Code Summarization, *ESEC/FSE 2025*

C*.2. Ahmed, T., Devanbu, P., Treude, C., Pradel, M., Can LLMs Replace Manual annotation of software engineering artifacts, *MSR 2025*

C*.3. Bouzenia, I., Devanbu, P., and Pradel, M., RepairAgent: An Autonomous, LLM-Based Agent for Program Repair *ICSE 2025*

C*.4. Spiess, C., Gros, Alipour, A., Jha, S., Pradel, M., Devanbu, P., Ahmed, T Calibration and Correctness of Language Models for Code *ICSE 2025*

C*.5. Ahmed, T., Pai, K., Devanbu, P., Barr, E., Automatic Semantic Augmentation of language model prompts (for code summarization), *ICSE 2024*

C*.6. Ahmed, T., Devanbu, P., Majority Rule: better patching via Self-Consistency *ASE NIER, 2023*

C*.7. Jesse, K.R., Ahmed, T., Devanbu, P., Morgan, E., Large Language Models, and Simple, Stupid, Bugs *MSR, 2023*

C*.8. Al-Kaswan, A., Ahmed, T., Izadi, M., Sawant, A., Devanbu, P., van Deursen, A., "Extending Source Code Pre-Trained Language Models to Summarise Decompiled Binaries", *SANER 2023*

C*.9. Few-shot training LLMs for project-specific code-summarization, Ahmed, T, Devanbu, P, *ASE NEIR, 2022*

C*.10. Chakraborty, S., Ahmed, T., Ding, Y., Devanbu, P., and Ray, B., NatGen: Generative pre-training by" Naturalizing" source code, *ESEC/FSE 2022*

C*.11. FlexType: A Plug-and-Play Framework for Type Inference Models, Voruganti, S., Jesse, K., Devanbu, P., *ASE 2022, Tool Demonstractions Track*

C*.12. Ahmed, T., and Devanbu, P., Few-shot training LLMs for project-specific code-summarization, *ASE 2022, NIER Track*

C*.13. Ahmed, T., and Devanbu, P., Multilingual Training for Software Engineering, *ICSE 2022*.

C*.14. Jesse, K., Devanbu, P., Ahmed, T., Learning Type Annotations: Is Big Data Enough? *ESEC/FSE Visions & Reflections*, 2021, pages 1483-1486

C*.15. Gros, D., Sezhiyan, H., Devanbu, P., Zhou, Y., Code to Comment "Translation": Data, Metrics, Baselining & Evaluation, *Automated Software Engineering 2020*, pages 746-757

C*.16. Ding, Y., Ray, B., Devanbu, P., Hellendoorn, V., Patching as Translation: The Data *vs.* the Metaphor. *Automated Software Engineering 2020*, pages 275-286

C*.17. Casal, C., Devanbu, P., Morgan, E., Does Surprisal Predict Code Comprehension Difficulty? *CogSci 2020*

C*.18. Casal, C., Barr, E.T., Dash, S.K., Devanbu, P., Morgan, E., A Theory of Dual-Channel Constraints, *ICSE-NIER 2020*, pages 25-28

C*.19. Dmeiri, N., Tomassi, D.A., Wang, Y., Bhowmick, A., Liu, Y.C., Devanbu, P., Vasilescu, B., Rubio-Gonzalez, C. BugSwarm: Mining and Continuously Growing a Dataset of Reproducible Failures and Fixes *ICSE 2019*, pages 339-349

C*.20. Zhai, H., Casalnuovo, C., Devanbu, P., Test Coverage in Python Programs, *MSR 2019*, pages 116-120

C*.21. Hellendoorn, V., Devanbu, P., Alipour, A., "On the Naturalness of Proofs" *ACM SIGSOFT ESEC/FSE NEIR 2018*, pages 724-728.

C*.22. Hellendoorn, V., Devanbu, P., Are Deep Neural Networks the Best Choice for Modeling Source Code *ACM SIGSOFT ESEC/FSE 2017*, pages 763-773

C*.23. Vasilescu, B., Casalnuovo, C., Devanbu, P., Recovering Clear, Natural, Identifiers from Obfuscated Code, *ACM SIGSOFT ESEC/FSE 2017*, pages 683-693

C*.24. Devanbu, P., Zimmermann, T., and Bird, C., Belief & Evidence in Empirical Software Engineering, *ICSE 2016*, pages 108-119

C*.25. Ray, B., Hellendoorn, V., Godhane, S., Tu, Z., Bacchelli, A., Devanbu, P., On the "Naturalness" of Buggy Code, , pages 428-439,

ICSE 2016

C*.26. The Sky Is Not the Limit: Multitasking on GitHub Projects Vasilescu, B., Blincoe, K., Xuan, Q., Casalnuovo, C., Damian, D., Devanbu, P., Filkov, V., *ICSE 2016*, pages 994-1005

C*.27. Casalnuevo, C., Vasilescu, B., Devanbu, P., Filkov V., Developer on-boarding in GitHub: The Role of Prior Social LInks and Language Experience *ACM SIGSOFT FSE 2015* , pages 817-828

C*.28. Vasilescu, B., Yue, Y., Wang, H., Devanbu, P., Filkov, V., Quality and Productivity Outcomes Relating to Continuous Integration in GitHub *ACM SIGSOFT FSE 2015* , pages 805-816

C*.29. Vasilescu, B., Posnett, D., Ray, B., van den Brand, M., Serebrenik, A., Devanbu, P., Filkov, V., Gender and Tenure Diversity in GitHub Teams Erratum. *ACM CHI 2015*, pages 3789-3798.

C*.30. Casalnuevo, C., Devanbu, P., Oliveira, A., Filkov V., and Ray, B. Assert Use in GitHub Projects *ICSE 2015*, pages 755-766.

C*.31. New Initiative: The Naturalness of software *ICSE NIER 2015* **Winner, Best Paper Award**, pages 543-546

C.32. Franks, C., Hellendoorn, V., Devanbu, P: CACHECA: A Cache Language Model Based Code Suggestion Tool

ICSE Demonstration Track, 2015, pages 705-708

C.33. Hellendoorn, V.J., Devanbu, P., Bacchelli, A. Will they like this: Evaluating Code Contributions with Language Models *MSR 2015*

C.34. Yu, Y., Wang, H., Filkov, V., Devanbu, P., Vasilescu, B. Wait for it: Determinants of Pull Request Evaluation Latency on GitHub *MSR 2015*, pages 157-167

C.35. Yu, Y., Wang, H., Filkov, V., Devanbu, P., and Vasilescu, B. Wait For It: Determinants of Pull Request Evaluation Latency on GitHub. *MSR 2015*, pages 367-371

C*.36. Tu, Z., Su, Z., and Devanbu, P, On the Localness of Software, *ACM SIGSOFT FSE 2014* , pages 269-280.

C*.37. Mani, S., Sankaranarayanan, K., Sinha, V., Devanbu, P., Panning Requirement Nuggets in Stream of Software Maintenance Tickets , *ACM SIGSOFT FSE 2014*, pages 678-688

C*.38. Barr, E., Brun, Y., Devanbu, P., Harman, M., and Sarro, F., The Plastic Surgery Hypothesis, *ACM SIGSOFT FSE 2014* , pages 306-317

C*.39. Xuan, Q., Okanao, A., Devanbu, P., and Filkov, V., Focus-Shifting Patterns of OSS Developers and Their Congruence with Call Graphs *ACM SIGSOFT FSE 2014*, pages 401-412

C*.40. Ray, B., Posnett, D., Filkov, V., and Devanbu, P. A Large Scale Study of Programming Languages and Code Quality in Github *ACM SIGSOFT FSE 2014*, pages 155-165

C*.41. Vasilescu, B., Serebrenik, A., Devanbu, P., Filkov, V., How social Q&A sites are changing knowledge sharing in open source software communities. *CSCW 2014* , pages 342-354

C*.42. Rahman, F., Barr., E., Khatri, S., Devanbu, P., Comparing Static bug finders and Statistical defect prediction, (*ICSE 2014*), pages 424-434

C.43. Asking for (and about) permissions used by Android apps Stevens, R., Ganz., J., Filkov, V., Devanbu, P., Chen, H., MSR 2013 pages 31-40

C*.44. Rahman, F., Posnett, P., Herraiz, I., Devanbu, P., Sample size vs. bias in defect prediction. *ESEC/FSE 2013* , pages 147-157

C*.45. Kavaler D., Posnett, D., Gibler, C., Chen, H., Devanbu, P., and Filkov, V., Using and Asking: APIs Used in the Android Market and Asked about in StackOverflow

Proceedings, Social Informatics Conference, 2013, pages 405-418

C*.46. Rahman, F., and Devanbu, P., How and why process metrics are better. ICSE 2013 , pages 432-441

C*.47. Daryl Posnett, Prem Devanbu and Vladimir Filkov Dual ecological measures of focus in Software Development ICSE 2013 ***Winner ACM SIGSOFT Distinguished Paper***, pages 452-461

C*.48. Ferdian Thung, Lucia, David Lo, Lingxiao Jiang, Lucia Lucia, Foyzur Rahman and Prem Devanbu To what extent could we detect field defects? an empirical study of false negatives in static bug finding tools. *ASE 2012*, pages 50-59

C*.49. Ferdian Thung, David Lo, Lingxiao Jiang, Lucia Lucia, Foyzur Rahman and Prem Devanbu When Would This Bug Get Reported? *ICSM 2012* pages 420-429

C*.50. Rahman, F., Devanbu, P., Recalling the "Imprecision" of cross-project defect prediction. *FSE 2012*, Article 61, pages -11

C*.51. Posnett, D., Devanbu, P., Filkov, V., MIC Check: A Correlation Tactic For ESE Data, *MSR 2012* Pages 22-31

C*.52. Hindle, A., Barr., E., Gabel, M., Su, Z., Devanb,u P., On the "Naturalness" of software, *ICSE 2012* pages 837-847

C*.53. Barr, E., Bird, C., Rigby, P., Hindle, A., German, G., Devanbu, P., Cohesive and Isolated Development with Branches, *FASE 2012* pages 316-331

C*.54. Xuan, Q., Gharehyazie, M., Devanbu, P., Filkov, V., Measuring the Effect of Social Communications on Individual Working Rhythms: A Case Study of Open Source Software. *Social Informatics, 2012* pages 78-85

C.55. Posnett, D., Warburg, E., Devanbu, P., Filkov, V., Mining Stack Exchange: Expertise Is Evident from Initial Contributions *Social Informatics, 2012* (short paper) pages 199-204

C.56. Posnett, D., Hindle, A., Devanbu., P, Got Issues? Do New Features and Code Improvements Affect Defects? *WCRE 2011* pages 211-215

C*.57. Posnett, D., Filkov, V., and Devanbu, P., Ecological Inference in Empirical Software Engineering, *ASE 2011,* (**15%**) ***Winner ACM SIGSOFT Distinguished Paper*** and ***Best paper of ASE 2011*** awards. pages 362-371

C*.58. Rahman, F., Posnett, D., Barr, E., Hindle, A., Devanbu, P., BugCache for Inspections: hit or miss? *FSE 2011*, ***Nominated for ACM SIGSOFT Distinguished Paper Award*** pages 322-331

C*.59. Bird, C., Nagappan, N., Murphy, B., Gall, H., Devanbu, P., Don't Touch My Code! Examining the Effects of Ownership on Software Quality *FSE 2011*, pages 4-14

C*.60. Rahman, F., and Devanbu, P., Ownership, Experience and Defects: A fine-grained study of Authorship *ICSE 2011* pages 491-500

C.61. Posnett, D., Hindle, A., Devanbu, P., A Simpler Model of Software Readability *MSR 2011* pages 73-82

C.62. Wang, X., Baik, E., Devanbu, P., Operating System Compatibility Analysis of Eclipse and Netbeans, based on bug data, *MSR Mining Challenge 2011*, pages 230-233

C*.63. Bachmann, B., Bird, C., Rahman, F., Devanbu, P., Berstein, A., The Missing links: bugs and bug-fix commits, *SIGSOFT FSE 2010* (**20%**)

C.64. Nia, R., Bird, C., Devanbu, P., Filkov, V., Validity of Network Analyses in Open Source Projects. *MSR 2010* (**31%**)

C.65. Rahman, M.F., Bird, C., Devanbu, P., Clones: What is that Smell? ***Best Paper Award, MSR 2010*** (**31%**)

C.66. Posnett, D., Bird, C., Devanbu, P., Thex: Mining Metapatterns in Java. *MSR 2010* (short paper) (**31%**)

C*.67. Bird, C., Nagappan, N., Devanbu, P., Gall, H., and Murphy, B., Putting it All Together: Using Socio-Technical Networks to Predict Failures, *ISSRE 2009 (***19%***)*

C*.68. Bird, C., Bachmann, A., Aune, E.., Duffy, J., Bernstein, A., Filkov, V., Devanbu, P., Fair and Balanced? Bias in bug-fix datasets, *SIGSOFT ESEC-FSE* 2009. (**15%**)

C.69. Bird, C., Rigby, P., Barr, E., Hamilton, D., German, D., and Devanbu, P. The Promises and Perils of Mining Git *Proceedings, Sixth IEEE International Working Conference on Mining Software Repositories* (**30%**) 2009

C*.70. Bird, C., Nagappan, N., Devanbu, P., Gall, H., and Murphy, B., Does Distributed Development Affect Software Quality? An Empirical Case Study of Windows Vista *ICSE 2009, Proceedings* (to appear). (**12%**) ***ACM SIGSOFT Distinguished Paper, also invited to appear in CACM Research Highlights.***

C*.71. Bird, C., Barr, E., Nash, A., Devanbu. P, Filkov, V., Su, Zhendong, Structure and Dynamics of Research Collaboration in Computer Science, *Proceedings, SIAM International Conference on Data Mining 2009*.

C*.72. Bird, C., Pattison, D., De Souza, R., Filkov, V., and Devanbu, P., Community Structure in Open-source Developer Social networks, *ACM SIGSOFT FSE 2008 Proceedings*, 2008. (**20%**)

C*.73. Shroff, G., Agrawal, P., Devanbu, P., Instant Multi-Tier Web Applications without Tears. *Indian Software Engineering Conference 2009* (**13%**)

C*.74. Pattison, D., Devanbu, P., Gertz., M. Talk and work: a preliminary report *MSR '08: Proceedings of the 2008 international workshop on Mining software repositories*, (short paper) 2008.

C*.75. Alonso, O., Bird, C., Devanbu, P., Expertise identification and visualization from CVS *MSR '08: Proceedings of the 2008 international workshop on Mining software repositories*, (short paper) 2008.

C*.76. Michael Ogawa, Kwan-Liu Ma, Christian Bird, Premkumar T. Devanbu, Alex Gourley: Visualizing social interaction in open source software projects. *APVIS* 2007

C*.77. Saul, Z., Filkov, V., Devanbu, P, and Bird, C. "Recommending Random Walks" *Proceedings of the 2007 ACM ESEC/SIGSOFT Foundations of Software Engineering Conference* ***Nominated for ACM SIGSOFT Distinguished Paper Award*** (**17%**)

C.78. Bird, C., Gourley, A., Devanbu P, Swaminathan, A., and Hsu, G. "Open Borders? Immigration in Open Source Projects", *Proceedings of the 2007 ICSE International workshop on Mining software repositories* (**38%**)

C.79. Bird, C., Gourley, A., Devanbu P, Swaminathan, A., and Hsu, G. "Detecting Patch Submission and Acceptance in OSS Projects", *Proceedings of the 2007 ICSE International workshop on Mining software repositories* (Short paper)

C*.80. Demir, O, Devanbu, P, Wohlstadter, E., Tai, S, "Aspect-oriented approach to bypassing in Middleware" *Proceedings of the 2007 Aspect-oriented Software Development Conference*, (**18%**)

C.81. Bird, C., Gourley, A., Devanbu, P., Swaminathan, A., and Gertz, M., "Mining E-mail Social Networks", *Proceedings of the 2006 ICSE International workshop on Mining software repositories* (**31%**)

C.82. Demir, O.E., Devanbu, P., Wohlstadter, E., and Tai, S., Optimizing Layered Middleware, *SEM '05: Proceedings of the 5th international workshop on Software engineering and middleware*, 2005.

C.83. Gould, C.R., Su, Z., Devanbu, P.T., JDBC Checker: A Static Analysis Tool for SQL/JDBC Applications. Research Demonstrations Track, *ICSE 2004*

C.84. Wohlstadter, E.,Jackson, S., Devanbu, P.T: Design and Implementation of Distributed Crosscutting Applications, Research Demonstration Track, *ICSE 2004*.

C*.85. Gould, C.R., Su., Z., Devanbu, P., "Static Checking of Dynamically Generated Queries in Database Applications", *ICSE* 2004, Edinburgh, UK. (**13%**). ***ACM SIGSOFT Distinguished Paper***

C*.86. Wohladter, E., Tai, S., Thomas, A., Rouvellou, I., Devanbu P., "GlueQoS: Middleware to Sweeten Quality-of-Service Policy Interactions", *ICSE* 2004, Edinburgh, UK. (**13%**)

C.87. Alonso, O., Gertz. M., Devanbu, P., Database Techniques for the Analysis and Exploration of Software Repositories *MSR '04: International Workshop on Mining Software Repositiories*, Edinburgh, UK, 2004.

C.88. Dahlgren, T., Devanbu, P. Adaptable Assertion Checking for Scientific Software Components, *International Workshop on Software EngineeringÊforÊ High Performance Computing System Applications*, Edinburgh, UK 2004.

C.89. Wohlstadter, E., Devanbu, P., "DADO: a novel programming model for distributed, heterogeneous, late-bound QoS implementations", Proceedings, *Workshop on Secure Reliable Middleware (SRM)* , Catania, Italy, 2003.

C*.90. Devanbu, P., Gertz, M., Toone, B., "Static type-inference for Trust in Distributed Information Systems", *Tenth International Conference on Co-operative Information Systems (COOPIS)*, Catania, Italy, 2003. (**23%**)

C*.91. Toone, B., Gertz., M., Devanbu, P., "Trust Mediation for Distributed Information Systems", *Eighteenth International Information Security Conference*, 2003, (**27%**)

C*.92. Wohlstadter, E., Jackson, S., Devanbu, P, "DADO: Enhancing middleware to support cross-cutting features in distributed, heterogeneous systems", *ICSE* 2003 (**13%**) ***Nominated for the ACM SIGSOFT Distinguished paper***

C.93. Premkumar T. Devanbu, Bob Balzer, Don S. Batory, Gregor Kiczales, John Launchbury, David Lorge Parnas, Peri L. Tarr: Modularity in the New Millenium: A Panel Summary. *ICSE 2003*

C.94. Wohlstadter, E., Toone, B., and Devanbu, P., ÒA Framework for Flexible Evolution in Distributed Heterogeneous Systems,Ó *International Workshop on Principles of Software Evolution*, 2002.

C.95. Jackson, S., Devanbu, P., ÒSplicing Views for Programmers,Ó *OOPSLA Workshop on Software Visualization*, 2001.

C.96. Devanbu, P., and Wohlstadter, E., ÒManaging Evolution in Distributed Heterogeneous Systems,Ó *NFS Workshop on New Visions for Software Design and Productivity: Research and Applications, 2001*.

C.97. Wohlstadter E., Keen, A., Jackson, S., Devanbu, P., "Accomodating Evolution in AspectJ" *Workshop on Advanced Separation of Concerns, OOPSLA 2001*

C*.98. Devanbu, P., Gertz, M., Kwong, A., Martel, C., Nuckols, G., and Stubblebine, S.,"Flexible Authentication of XML Documents", *ACM Conference on Computer and Communications Security*, 2001, (**17%**) Philadelphia, USA.

C.99. Knight, J., D. Heimbigner, A. Wolf, A. Carzaniga, J. Hill, and P. Devanbu, "The Willow Survivability Architecture". *Proc. of the Fourth Information Survivability Workshop*, 2001

C.100. Keen, D., Chong, F., Devanbu, P., Farrens, M., Brown, J., Hollfelder, J., and Zhuang, X.,"Memory issues in hardware-supported software safety" *ISCA 2001 Workshop on Memory Performance issues*, Goteborg, Sweden.

C.101. Wohlstadter, E., Devanbu, P., "A Lazy approach to modeling higher-order connectors", *ICSE 2001 Workshop on Advanced Separation of Concerns in Software Engineering*, Toronto, Canada.

C*.102. Wohlstadter, E., Jackson, S., Devanbu P.,"Generating Wrappers for Command-line Programs: The Cal-Aggie Wrap-O-Matic project." *Proceedings, ICSE 2001* (**18%**), Toronto, Canada

C.103. Devanbu, P., Gertz, M., Martel, C., Rogaway, P., Stubblebine, S.G., "Authentic Re-Publication by Untrusted Servers: A Novel Approach to Database Survivability", *Third IEEE Information Survivability Workshop (ISW-2000)*, 2000.

C.104. Wolf, A., Heimbinger, D., Carzaniga, A., Knight, J., Devanbu, P., Gertz, M., "Bend, Don't Break: Using Reconfiguration to Achieve Survivability", *Third IEEE Information Survivability Workshop (ISW-2000)*, 2000

C*.105. Devanbu, P., Gertz, M., Martel, C., Stubblebine, S., "Authentic Third-Party Data Publication", *Fourteenth IFIP 11.3 Conference on Database Security*, 2000, (**42%**)

C.106. Devanbu, P., Stubblebine, S., Uschold M., "The Next Revolution: Free, Full, Open Person-2-Person (P2P) E-commerce" *TWIST-2000: The workshop on Internet-Scale Technologies*, Irvine, CA, 2000.

C.107. Devanbu P., Stubblebine, S., "Security and Software Engineering: A Roadmap", *Twenty-second International Conference on Software Engineering,* 2000.

C*.108. Borgida, A., Devanbu, P. "Adding more DL to IDL: towards more Knowledgeable Component Inter-Operability", *Twenty-first International Conference on Software Engineering,* 1999. (**17%**).

C*.109. Devanbu, P., Chen, Y-F., Gansner, E, Muller, H., Martin, J., "Chime - Customizable Hyperlink Insertion and Maintenance Engine for Software Engineering Environments", *Twenty-first International Conference on Software Engineering*, 1999. (**17%**).

C.110. Malabarba, S., Devanbu P., Stearns, A., "MoHCA-JAVA—A tool to support C++ to Java Conversion", Reviewed Research Demonstration Track, *Twenty-first International Conference on Software Engineering,* 1999.

C.111. Sitaraman, M., Davis, M., Devanbu, P., Poulin, J., Ran A., Weide B., "Reuse Research: Contributions, Problems and Non-Problems", *ACM Symposium on Software Reuse*, 1999. (Invited panel summary).

C.112. P. Devanbu, M. Gertz, S. Stubblebine. "Security for Automated, Distributed Configuration Management", *Proceedings, ICSE 99 Workshop on Software Engineering over the Internet*, 1999.

C.113. Sant'anna. M., Leite, J., Baxter, I., Wile, D., Biggerstaff, T., Batory, D., Devanbu, P., Burd L., "International Workshop on Software Transformation Systems (STS'99)", *Twenty-first International Conference on Software Engineering* 1999. (Invited workshop summary).

C*.114. Devanbu, P., Stubblebine, S., "Stack and Queue Integrity on Hostile Platforms", *IEEE Symposium on Security and Privacy*, 1998. (**17%**).

C*.115. Devanbu P., Fong, P., Stubblebine, S. "Techniques for Trusted Software Engineering" *Twentieth International Conference on Software Engineering*, 1998. (**19%**)

C*.116. Devanbu P., Stubblebine S., "Research Directions for Automated Software Verification: Using Trusted Hardware", *Conference on Automated Software Engineering*, 1997. (**29%**).

C*.117. Devanbu P., Stubblebine, S., "Cryptographic Verification of Test Coverage Claims", *Fifth ACM SIGSOFT Conference on the Foundations of Software Engineering*, 1997. (**14%**).

C*.118. Cohen, W., Devanbu, P., "A Comparative Study of Inductive Logic Programming Methods for Software Fault Prediction", *Fourteenth International Conference on Machine Learning*, 1997. (**34%**).

C*.119. Briand L., Devanbu, P., Melo, W., "An Investigation into Coupling Measures for C++", *19th International Conference on Software Engineering*, 1997. (**19%**).

C.120. Devanbu, P., "Research Issues in Software Development with Distributed Objects", *Second OOPSLA workshop on distributed objects and the World Wide Web*, `http://www.eng.uci.edu/~peilei/index.html` 1996.

C*.121. Devanbu, P., Karstu, S., Melo, W., Thomas, D. "Analytical and Empirical Validation of Reuse Benefit Measures", *18th International Conference on Software Engineering*, 1996. (**24%**).

C.122. Devanbu, P., Karstu, S., "Measuring the Benefits of Software Reuse", *Workshop on Institutionalizing Software Reuse*, 1995.

C*.123. Devanbu, P., Rosenblum, D., Wolf, A., "Automated Construction of Testing and Analysis Tools", *16th International Conference on Software Engineering*, 1994. (**11%**).

C*.124. Devanbu, P., Jones, M. "The Use of Description Logics in KBSE Systems", *16th International Conference on Software Engineering*, 1994. (**11%**).

C.125. Devanbu, P., "Research issues in Applications Generators", *Workshop on Institutionalizing Software Reuse*, 1993.

C*.126. Devanbu, P., "Translating Description Logics into Information Server Queries", *Second International Conference on Information and Knowledge Management*, 1993. (**43%**).

C.127. Borgida, A., Devanbu, P., "Knowledge Base Management Systems using Description Logics and their role in Software Information Systems" (invited paper), *Information Processing 92 (Vol.3)*, pp.171–181, Elsevier Science Publishers, 1992.

C.128. Devanbu, P. "Terminological Languages in Software Information Systems", in the *International Workshop on Uses of Terminological Logics* , .

C.129. Devanbu, P. "Knowledge Based Software Information Systems", in the *Workshop on Applying Artificial Intelligence to Software Problems: Assessing Promises and Pitfalls*

C*.130. Devanbu, P. "GENOA- a language and front-end independent source code analyzer generator", *14th International Conference on Software Engineering*, 1992. (**12%**). ***Nominee and first-runner up for ICSE 2002 Ten-year most influential paper award***.

C.131. Devanbu, P. "Knowledge Acquisition for Reuse", in the *First International Workshop on Software Reuse*, 1991.

C*.132. Devanbu, P., Litman, D., "Plan-Based Terminological Reasoning", *Second International Conference on Principles of Knowledge Representation*, Boston, Mass., 1991. (**27%**).

C*.133. Devanbu, P., Brachman, R., Selfridge P., Ballard, B., "LaSSIE - A Classification-Based Software Information System". *Twelfth International Conference on Software Engineering*, 1990. (**10%**).

C.134. Devanbu, P. "Re-Use of Software Knowledge: a Progress Report", in *Workshop on Institutionalizing Software Reuse*, 1990.

C.135. Brachman, R., Devanbu, P., "Domain Modeling in a Software Information System" Proceedings, *Domain Modeling Workshop*, in conjunction with *OOPSLA '89* 1989.

C.136. Devanbu, P., Brachman, R., "Inference in Support of Retrieval for Re-Use in Large Software Systems", *Workshop on Institutionalizing Software Reuse*, 1989.

C*.137. Devanbu, P., Selfridge, P., Ballard, B., Brachman, R., "A Knowledge-Based Software Information System", Proceedings of the *Ninth International Joint Conference in Artificial Intelligence*, 1989. (**21%**).

C*.138. Agrawal, R., Devanbu, P., "Moving Selections into Linear Least Fixpoint Queries", *Proceedings, Fourth International Conference on Data Engineering*, 1988. (**31%**).

C*.139. Devanbu, P., Freeland, M., Naqvi, S., "A Procedural Approach to Search Control in Prolog" *Proceedings, European Conference on Artificial Intelligence*, 1986. (**24%**).

ADVISEES

Name	Degree	Role	Years	Current Position, if Known
Howard Louie	M.S	Co-Advisor	1999-2000	JD, Patent Attorney
Kimberly Knowles	M.S.	Advisor	1998-2000	Amazon
Ricardo Anguiano	M.S	Advisor	2000-2002	Mentor Graphics
Eric Wohlstadter	Ph.D	Advisor	1999-2004	Principal Engineer, Splunk
Brian Toone	M.S., Ph.D	Co-Advisor	2000-2004	Assoc. Professor, Samford University
Stoney Jackson	M.S., Ph.D	Advisor	2000-2004	Professor, Western New England College
Tamara Dahlgren	Ph.D	Committee	2002-2008	Scientist, LLNL.gov
Derrick Pallas	M.S.	Co-Advisor	2003-2005	Cisco Meraki
Omer Demir	Ph.D	Advisor	2004- 2007	Google
Zach Saul	Ph.D	Co-Advisor	2006-2008	Reddit
Yu Wang	M.S.	Advisor	2006 - 2007	Graduated
Chris Bird	Ph.D	Advisor	2005- 2010	Senior Principal Researcher, Microsoft Research
Bharathi Seshadri	M.S.	Advisor	2008 -2009	Cisco
Daryl Posnett	Ph.D.	Advisor	2007 - 2012	Independent Consultant
Amrinder Singh	M.S.	Advisor	2009 - 2010	NVidia
Foyzur Rahman	Ph.D.	Advisor	2009 - 2013	Amazon
Dr. Abram Hindle	Post-Doc	Supervisor	2010 -2011	Assoc. Professor, Univ. of Alberta
Dr. Earl Barr	Post-Doc	Co-Supervisor	2010-2012	Professor University College, London.
Ming Xiao	M.S.	Advisor	2011-2013	Minted
Rachel Aurand	M.S.	Advisor	2011 - 2013	GitHub
Stephen Raymond	M.S.	Advisor	2011 - 2012	NVidia
Baishakhi Ray	Post-Doc	Supervisor	2013 -2015	Assoc. Professor, Columbia University
Zhaopeng Tu	Post-Doc	Supervisor	2013 -2014	Researcher Tencent Corp., Shenzhen.
David Kavaler	Ph.D	Co-Advisor	2013 - 2018	Sandia Labs, California
Saheel Godhane	M.S.	Advisor	2013 - 2016	Salesforce
Casey Casalnuovo	Ph.D	Advisor	2013 - 2020	Sandia Labs, California
Bogdan Vasilescu	Post-Doc	Co-Supervisor	2014-2016	Assoc. Professor, CMU
Niraj Kumar	Post-Doc	Supervisor	2015- 2016	Fujitsu Labs, Bangalore
Jennifer D'Souza	Post-Doc	Co-Supervisor	2015- 2016	Leibniz Centrum, Germany
Vincent Hellendoorn	Ph.D	Advisor	2015 - 2020	Asst. Professor , CMU & Google Deepmind
Ben Mishkanian	M.S.	Advisor	2015 - 2016	Illumina
Siddhika Cowlagi	M.S.	Advisor	2015 - 2016	Electronic Arts
Shaikh Ismail	M.S.	Advisor	2016-2018	Amazon
Anand Sawant	Post-Doc	Advisor	2019-2021	Endor Labs
Toufique Ahmed	Ph.D + Post-Doc	Advisor	2018-2024	IBM Research
Kevin Jesse	Ph.D	Advisor	2018-2023	Accenture Labs
David Gros	Ph.D	Advisor	2019-	Current
Claudio Spiess	Ph.D	Advisor	2021-	Current

PROFESSIONAL ACTIVITIES:

1. Co-Chair, Research and Advances Track, *Communications of the ACM*.
2. Invited Keynote, IEEE Multimedia Conference, San Jose, 2025
3. Invited Keynote, FORGE 2025, Ottawa, Canada, 2025
4. Invited Keynote, AI Ware Leadership Bootcamp, 2024
5. Invited Keynote, SEMLA 2024
6. Distinguished Lecturer, CMU, 2024
7. Distinguished Lecturer, College of William & Mary, 2024
8. Invited Keynote, SANER, 2024
9. Invited Harlan Mills Award Lecture, ICSE 2024
10. Distinguished Lecturer, Max Planck, Saarbrucken, 2023
11. Most Influential Paper invited Keynote, ICSE 2022
12. Distinguished Lecturer, ISR, UC Irvine, 2021
13. Plenary Keynote, ICSE 2021 (held virtually "in" Madrid, ES).
14. General Chair, ESEC/FSE 2020 (Held virtually "in" Sacramento, CA)
15. Co-Chair, Research Track, Communications of the ACM.
16. Program Committee, ICSE 2020
17. Program Committee, ESEC/FSE 2019
18. Program Committee, ICSE 2019 NIER
19. Program Committee, ESEC/FSE 2018 NIER
20. Distinguished Lecturer, George Mason University, 2018.
21. Program Committee, ICSE 2017
22. Program Board Member, ICSE 2016
23. Distinguished Lecturer, UC Irvine, 2016
24. Keynote, Brazilian Symposium on Software Engineering, Belo Horizonte, 2015

25. Keynote, WASE (at the Chilean Computer Science Conference), Santiago, 2015
26. Distinguished Lecturer, University of Nebraska, Jan 16, 2014
27. Distinguished Speaker, University of Maryland, March 6, 2014
28. Keynote, Dagstuhl Seminar on Software Analytics, June 2014
29. Keynote, International Workshop on Software Engineering Research and Industrial Practices, June 2014
30. Distinguished Lecturer, University of Massachusetts, Sept 19, 2013
31. Keynote, Microsoft SEIF Summit, 2013.
32. Program Committee, ICSE 2013, 2014, and FSE 2014.
33. Keynote, ISEC Conference, New Delhi, India, 2013
34. Keynote, SEKE Conference, Redwood City, California, 2012.
35. Keynote, ICSE Doctoral Symposium, Zurich, Switzerland, 2012.
36. Keynote, International Workshop on Principles of Software Evolution, Szeged, Hungary, 2011.
37. Keynote, PASED Summer School on Empirical Software Engineering, Montreal, Canada, 2011
38. Program Committee, *ICSE* 2011.
39. Invited Plenary Talk, *Empirical Software Engineering Conference*, Bolzano, Italy, 2010.
40. Keynote, *International Conference on Software Engineering and Data Engineering*, San Francisco, USA, 2010.
41. Keynote, *Ascona Workshop on Mining Software Repositories*, Ascona, Switzerland, 2010.
42. Associate Editor, *Wiley Journal of Software Maintenance & Evolution, Research & Practice*, 2010-2016.
43. Associate Editor, *Springer-Verlag Empirical Software Engineering Journal* , 2009-2015.
44. Program Chair (with Seb Uchitel) for ICSE 2010. for Capetown, South Africa.
45. Associate Editor, *IEEE Transactions on Software Engineering*, 2006-2010.
46. Keynote, *Working Conference on Reverse Engineering*, Antwerp, Belgium, 2008
47. Program Committee, *ACM SIGSOFT FSE, 2008*

48. Program Committee, *ACM SIGSOFT FSE/ESEC, 2007*

49. Program Chair, *ACM SIGSOFT Foundations of Software Engineering*, 2006.

50. Associate Editor, *ACM Transactions on Software Engineering*, 2002-2005

51. Reviewer, National Science Foundation Panels, including regular, ITR, SoD, and SBIR panels, 2000, 2001,2002,2003,2004, 2005,2007.

52. Guest Editor, *ACM Transactions on Software Engineering*, Special issue on Software Engineering and Security.

53. Guest Editor, *IEEE Transactions on Software Engineering*, Special issue on Software Reuse.

54. Program Committee, *ACM SIGSOFT Conference on Foundations of Software Engineering*, 2005.

55. Program Committee, *ACM Middleware*, 2004.

56. Program Committee, *ACM SIGSOFT Conference on Foundations of Software Engineering*, 2004.

57. Program Committee, *Twenty-Sixth International Conference on Software Engineering*, 2004.

58. Program Committee, *Twenty-Fifth International Conference on Software Engineering*, 2003.

59. Program Committee, *Twenty-Fourth International Conference on Software Engineering*, 2002.

60. Program Committee, *ACM SIGSOFT Conference on Foundations of Software Engineering*, 2002.

61. Program Committee, *ACM SIGSOFT Conference on Foundations of Software Engineering*, 2001.

62. Co-Chair (with Prof. J. Mylopoulos), Workshops Committee, *Twenty-Third Internatational Conference on Software Engineering*, 2001.

63. Invited Keynote Speaker, International Workshop on Description Logics (DL 2000), Aachen, Germany.

64. Program Committee, *Twenty-Second International Conference on Software Engineering*, 2000.

65. Program Committee, *ACM SIGSOFT Conference on Foundations of Software Engineering*, 2000.

66. Program Committee, *Twenty-first International Conference on Software Engineering*, 1999.

67. Panel Participant, "Reuse research: contributions, problems and non-problems", ACM Symposium on Software Reuse, 1999.

68. Program Committee, *Twentieth International Conference on Software Engineering*, 1998.

69. Program Co-Chair, *Fifth International Conference on Software Reuse*, 1998.

70. Program Committee of the *IEEE International Conferences on the Engineering of Complex Computer Systems*, 1996, 1997.

71. Advisory and Program Committees of the *International Conference on Software Reuse*, Orlando, 1993, 1994, 1996, 2000.

72. Program Committee of the *Working Conferences on Reverse Engineering*, 1995, 1996, 1997, 1998, 1999.

73. Program Committee of the *Workshops on Program Comprehension*, 1995, 1996, 1997, 1998, 1999.

74. Program Committee of the *Sixth Knowledge-Based Software Engineering Conference*, 1996.

75. Frequent Reviewer for *IEEE Transactions on Software Engineering* and *ACM Transactions on Software Engineering and Methodology*.

76. Reviewer for *Journal of the ACM*.

77. Reviewed grant and project proposals from Canadian National Research Council, and Office of Technology Assessment (DOD).

78. Presented a tutorial survey on "Generative Methods of Software Reuse" at the *International Conferences on Software Reuse*, 1994, 1996.

79. Panel on the "Relative benefits of generative and object-based reuse" (with Ira Baxter, Jim Neighbors, and Bjarne Stroustrup) *International Conference on Software Reuse*, Orlando, 1996.

80. Panel on Program Understanding, at the *Seventh Annual Knowledge-Based Software Engineering Conference,* Washington, DC, September 1992

81. Panel on Domain Modeling, at the *Sixth Annual Knowledge-Based Software Engineering Conference,* Syracuse, NY., September 1991

82. Invited Speaker at Second Workshop on Domain Modeling, in conjunction with *Thirteenth International Conference on Software Engineering*, Austin TX., May 1991.

Community Service:

- **Departmental Service:** Industrial Relations Committee (1998-1999), Undergraduate Affairs Committee (1998-2001), Accreditation Co-ordinator, (1999-2001), Recruiting Committee (2000-2001,2007), Visibility Committee, (Founding Chair) (2001-2002), Recruiting Committee Chair (2004-2006). Graduate Admission Committee Chair (2007).
- **College Level:** Program Planning and Assessment Committee, College of Engineering Executive Committee.
- **University Level:** Alternate departmental representative, Representative Assembly of the Academic Senate, Committee on Privilege & Tenure, Academic Senate.
- **Extramural:** ACM SIGSOFT representative to the Curriculum Undergraduate Curriculum Committee on Software Engineering (2001-2002). Selection Committee for the Editon-in-Chief, *IEEE Transactions on Software Engineering* (2014-2015).

Funding:

Note: I have no research funding prior to 1998, when I first took an academic position; hence all the grants/gifts listed below began after 1998. Grants on which I was PI are listed first, ordered earliest first.

1. PI, $37,000 Gift, from Microsoft Research to support research into static analysis (1998).
2. PI, $52,766 grant, NSF "SGER: a Framework debugging domain-specific languages" (1998-2000).
3. PI, $15,000 Gift, from Hewlett-Packard Laboratories to support research into distributed configuration management, and $9,750 matching funds from the University of California MICRO Program (1999).(Co-PI: Michael Gertz)
4. PI, $249,446, DARPA Subcontract, "Secure Mediation", sub-contract to University of Colorado (2000-2003). (Co-PI: Michael Gertz)
5. PI, $786,465, NSF, "ITR: Scalable and Secure Information Re-publication", (Co-PIs: Michael Gertz, Chip Martel, Phillip Rogaway), (2000-2003)
6. PI, $150,000, NSF, "Managing evolution in distributed, heterogeneous systems" (2002-2005)
7. PI, $40,000, IBM Faculty Partnership Award. (Gift from IBM corporation) "Building Adaptable Systems". (2004)
8. PI, $131,000, NSF, "Mining Problem-solving Behaviour from Open-Source Resposities". (2005-2007)
9. PI, $750,000, NSF, "SoD-TEAM: Longitudinal effects of Design in Open Source Projects", (2006-2010)
10. PI, $20,000, IBM Faculty Partnership Award. (2009-2010)
11. PI, $10,000 Gift, Microsoft Research (2010-2011)
12. PI, $700,118, NSF, "SHF: Medium: How Do Static Analysis Tools Affect End-User Quality" (2010-2014)
13. PI, $310,000, NSF, "EAGER: Exploiting the Naturalness of Software , joint with Carngie-Mellon University and UT Dallas, (UC Davis was lead, total amount is $600,000). (2012-2014)

14. PI, $1,516,108, NSF "SHF: Large: Collaborative Research: Exploiting the Naturalness of Software", (CoPIs: Vladimir Filkov, Zhendong Su). 2014 (Total amount over $2,500,000, some of which was sub-contracted out to our partners at CMU and Iowa State. UC Davis was Lead, I was project director)

15. PI $65,792, NSF, 2016, "Interdisciplinary Workshop on Statistical Natural Language Processing Methods for Software Engineering"

16. PI, $85,000, Sandia National Labs, 2021, "Machine Learning for Reverse Engineering Binaries"

17. PI, $1,200,000 NSF 2021 "SHF: Medium: Studying & Exploiting the Bimodality of Software",

18. PI $195,667, Intelligence Advance Research Projects Agency/Army Research Laboratories, 2023-2024, "TROJAI-Detecting Trojans in Deep Neural Network Program Synthesizes"

19. Co-PI, $130,000 sub-contract to Boeing (DARPA funding) "Multi-Community Cyber Defense", (1999-2001). (Co-PI: Michael Gertz, Karl Levitt)

20. Co-PI $366,800, NSF, "ITR: Improving System Functionality using monitoring processors", (PI: Matt Farrens, and Co-PI: Fred Chong) (2001-2004)

21. Co-PI $170,000, NSF " CISE Research Resources: Infrastructure for Research in Parallel and Distributed Computing" (2002-2004), (PI: Raju Pandey; CoPIs: Demet Aksoy, Ron Olsson)

22. Co-PI, $698,621, AFOSR, "Structure and Function of Task-Oriented Social Networks". (PI: Vladimir Filkov; Co-PIs: Raissa D'Souza, Diane Felmlee).

23. Co-PI $300,000, NSF "Toward Numerically Robust Software" (PI: Zhendong Su, Co-PIs: Zhaojun Bai).

24. Co-PI $300,000, " NSF EAGER: Effective Detection of Vulnerabilities and Linguistic Stratification in Open Source Software" (PI: Raul Aranovich, Co-PIs: Vladimir Filkov)

25. Co-PI $1,033,000, "CI-New: BugSwarm: A Large-Scale Repository of Replicable Defects, Tests, and Patches to Support the Software Engineering Research Community" 2016, (PI: Cindy Rubio-Gonzalez, Co-PI: Bogdan Vasilescu)

26. Co-PI $640,000, CICI: SSC: TrOnto - A Community-Based Ontology for a Trustworthy and ResiliCent Scientific Cyberspace, 2018

27. Co-PI, $1,470,431 CCRI: ENS: BugSwarm: Enhancing an Infrastructure and Dataset to Support the Software Engineering Research Community, 2020 (PI: CIndy Rubio-Gonzalez)

28. Co-PI, $300,000, NSF, ”EAGER: Proof Carrying Code Completions”, (2024-) (PI: Caleb Stanford).

Patents:

1. United States Patent No. 5,826,256. Issued 10/20/1998. *Apparatus and methods for source code discovery.*, (Assignee: Bell Laboratories/Lucent Technologies).

2. United States Patent No. 5,832,271. Issued 11/3/1998. *Determining dynamic properties of programs.*, (Assignee: Bell Laboratories/Lucent Technologies).

3. United States Patent No. 5,909,577. Issued 6/1/1999. *Determining dynamic properties of programs* (Uses a different realization than that used in No. 5,832,271). (Assignee: Bell Laboratories/Lucent Technologies).

4. United States Patent No. 6,098,170. Issued 8/1/2000. *System and method for using a second resource to store a data element from a first resource in a first-in first-out queue*, (Continued as 6,237,094, issued May 22, 2001) (Assignee: AT&T Corporation)

5. United States Patent No. 6,101,603. Issued 8/8/2000. *System and method for using a second resource to store a data element from a first resource in a first-in first-out stack*, (Continued as 6,249,871, issued June 19, 2001) (Assignee: AT&T Corporation)

6. United States Patent No. 6,148,401. Issued 11/14/2000, *System and method for providing assurance to a host that a piece of software possesses a particular property*, (Assignee: AT&T Corporation) (Continued as 6,381,698, issued April 30, 2002)

7. United States Patent No. 6,681,371, Issued 01/20/2004, *System and method for using container documents as multi-user domain clients*, (Assignee: AT&T Corporation).

Teaching:

1. Nominated for the ASUCD (Associated Students of UC Davis) Distinguished Teaching award, 2011.

2. Introduction to Programming (ECS 30) Freshman Basic C programming, enrollments up to 300.

3. Undergraduate Software Engineering (ECS 160). (Typically offered twice a year) A core software-engineering class, including a major design project. Concepts emphasized include object-oriented software engineering, teamwork, web service construction and design. A high-demand class, required for CS&E majors, with enrollments frequently exceeding 100.

   I've also developed a proposed new companion course, tentatively numbered 160A (while the above becomes 160B). The new version is an "Advanced Programming" course, emphasizing Patterns, Functional Programming, Streams, Reactive Programming and Analysis & Testing. With this, 160B becomes a one-quarter purely project course for non-Engineering CS majors.

4. Modern Software Tools (ECS 161) (Typically offered every other year). I developed this new course. Tools that are used in high-speed modern software processes like DevOps, including tools for distributed version control, Continuous Integration, distributed code review, and Continuous/Virtualized deployment.

5. Graduate Software Engineering (ECS 260). (Typically offered once a year) Lecture and project class emphasizing advanced programming techniques and component-based technologies. .

6. Seminar on Open Source and Empirical Software Engineering (ECS 289x) . Occasional small-enrollment advanced graduate seminar.

7. Seminar on Machine Learning for Software Engineering (ECS 289x). Offered for the first time Spring 2019