Sven Apel
Curriculum Vitae
2024-02-27

Coordinates

Position:	Full Professor		
Affiliation:	Saarland University Saarland Informatics Campus Chair of Software Engineering E1.1, 66123 Saarbrücken, Germany	Phone: E-mail: Web: ORCiD:	+49 681 302 57211 apel@cs.uni-saarland.de https://www.se.cs.uni-saarland.de/apel/ 0000-0003-3687-2233

Research Interests

A key vision driving my research is to empower software engineering practice to enter an **era of intensive automation**. I develop and evaluate methods, tools, and theories for the construction of manageable, reliable, efficient, configurable, and evolvable software systems. In particular, I am interested in:

- Software product lines and configurable systems
- Domain-specific generation and optimization
- Software analytics and intelligence
- Empirical methods and the human factor in software engineering

I apply my research results routinely to real-world software systems and projects from different domains, in particular, data-intensive, operating, and high-performance computing systems, both from the open-source realm or in collaborations with partners from industry, such as Siemens AG, Bosch Austria, Airbus Helicopters, and Fraunhofer IESE.

Education

2003 – 2007	Doctoral degree in Computer Science (Doktor-Ingenieur), University of Magdeburg, Germany, Grade "**summa cum laude**" (with distinction)
1996 – 2002	Diploma degree in Computer Science (Diplom-Informatiker), University of Magdeburg, Germany, Grade "**A**" (excellent)

Academic Employment

since 2019	Full Professor, Chair of Software Engineering, Saarland University, Germany
2013 – 2019	Full Professor (Heisenberg Professorship, tenured in 2017), Chair of Software Engineering I, University of Passau, Germany
2010 – 2013	Head of Emmy-Noether Research Group "Safe and Efficient Software Product Lines", University of Passau, Germany
2012	Visiting Researcher, University of Waterloo, Canada
2007 – 2010	Postdoctoral Researcher, University of Passau, Germany
2006	Visiting Scholar, University of Texas at Austin, USA
2003 – 2007	Research Assistant, University of Magdeburg, Germany

Awards and Honors

2023	**Most Influential Paper Award** @ GPCE
2022	**ERC Advanced Grant**
2022	**ASE Fellow**
2022	**Most Influential Paper Award** @ ICPC
2021	ACM SIGSOFT Distinguished Paper Award @ ICSE
2019	**Most Influential Paper Award** @ SPLC
2018	**ACM Distinguished Member** for Outstanding Scientific Contributions to Computing
2018	Distinguished Reviewer Award @ ASE
2016	**Hugo Junkers Award** for Research and Innovation
2015	Appointment to the **Young Academy of Europe** (5 years)
2015	ACM SIGSOFT Distinguished Paper Award @ ICSE
2015	Best Paper Award @ Modularity
2013	**Heisenberg Professorship** of the German Research Foundation
2011	Best Research Paper Award @ SPLC
2010	**Emmy-Noether Fellowship** of the German Research Foundation
2007	**Dissertation Award** of the University of Magdeburg and the Karin-Witte Foundation
2007	**Software-Engineering Award** of the **Ernst-Denert Foundation** for the Best Doctoral Dissertation
2006	Award of the School of Computer Science, University of Magdeburg for Outstanding Scientific Achievements

Research Grants and Projects

2022 – 2027	A Neuroscientific Foundation of Program Comprehension (Brains On Code), **ERC Advanced Grant** (101052182): **2 500 000** €
2022 – 2026	Foundations of Perspicuous Software Systems (CPEC), funded within **DFG Transregional Collaborative Research Centre 248**: Principal investigator (Projects C2 and E3)
2020 – 2023	Foundations and Implications of Socio-Technical Congruence in Large-Scale, Decentralized, and Distributed Software Projects (Congruence), funded by **DFG** (AP 206/14-1): **620 000** €
2017 – 2024	Performance Evolution of Highly Configurable Software Systems (Pervolution), funded by **DFG** (AP 206/11-1&2): **520 000** € of **1 040 000** €, with Norbert Siegmund
2013 – 2018	Advanced Stencil-Code Engineering (ExaStencils), funded within **DFG Priority Program 1648** (AP 206/7-1&2): **510 000** € of **2 500 000** €, with Christian Lengauer, Ulrich Rüde, Jürgen Teich, and Matthias Bolten
2013 – 2018	Generation of Correct and Efficient Software based on Product-Line Technology (SafeSPL++), funded within **DFG Heisenberg Program** (AP 206/6-1&2): **660 000** €
2012 – 2017	Techniques and Prediction Models for Sustainable Product-Line Engineering (Pythia), funded within **DFG Priority Program 1593** (AP 206/5-1&2): **700 000** €
2015 – 2018	Taming and Optimizing Feature Interaction in Software-intensive Automotive Systems (FeatureOpt), funded by **FFG**: **100 000** € of **500 000** €, with Hermann Kaindl and Bosch Austria
2010 – 2015	Safe and Efficient Software Product Lines (SafeSPL), funded within **DFG Emmy-Noether Program** (AP 206/4-1&2): **1 300 000** €
2011 – 2013	Typing of MapReduce (MapReduceFoundation), funded by **DFG** (LE 912/13-1): **160 000** € (no share), with Christian Lengauer
2009 – 2013	Algebra-Based Feature-Oriented Program Synthesis (FeatureFoundation), funded by **DFG** (AP 206/2-1&2): **320 000** € of **640 000** €, with Christian Lengauer and Bernhard Möller

Professional Service

Steering Committees (selected)

ACM Joint European Software Engineering Conference and
Symposium on the Foundations of Software Engineering (ESEC/FSE), since 2017

IEEE/ACM Int'l Conference on Automated Software Engineering (ASE), 2016–2022

Organization Committees (selected)

27th ACM Joint European Software Engineering Conference and
Symposium on the Foundations of Software Engineering (ESEC/FSE'19), **Program Chair**

31th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'16), **Program Chair**

Dagstuhl Seminar on Feature Interactions: The Next Generation, 2014

10th Int'l Conference on Software Composition (SC'11), **Program Chair**

Dagstuhl Seminar on Feature-Oriented Software Development, 2011

Dagstuhl Seminar on Software Engineering for Tailor-made Data Management, 2008

Editorships

Empirical Software Engineering, Member of Editorial Board, 2015–2023

IEEE Software, Member of Editorial Board, 2015–2023

IEEE Transactions on Software Engineering, Member of Editorial Board, 2017–2021

Program Committees (selected)

ACM/IEEE Int'l Conference on Software Engineering (ICSE), 2014–2017, 2019–2020, 2024

ACM Joint European Software Engineering Conference and
Symposium on the Foundations of Software Engineering (ESEC/FSE), 2013, 2018–2021, 2024

IEEE/ACM Int'l Conference on Automated Software Engineering (ASE), 2009–2011, 2013–2018, 2020–2022

European Conference on Object-Oriented Programming (ECOOP), 2011, 2014, 2016

Award Committees

SPEC Kaivalya Dixit Distinguished Dissertation Award Committee, 2022

IEEE Software Award Approval Committee, since 2019

ACM SIGSOFT Outstanding Dissertation Award Committee, 2018

Test of Award Committee, ESEC/FSE, 2018–2020

Dissertation Award Committee of the German Computer Science Society, since 2017

Departmental Service

Vice Chair of the Board of Examiners for Doctoral Awards, 2016–2019

Member of the Board of Examiners for Computer Science, 2013–2019

Head of the Master Program of Computer Science, 2013–2015

Member of the Accreditation Committee for Computer Science, 2014

Invited Talks and Lectures (selected)

Brains on Code: Towards a Neuroscientific Foundation of Program Comprehension
Keynote at the Int'l Conference on Fundamental Approaches to Software Engineering (FASE), Paris, France, 2023

Software Performance Modelling in Spacetime
Keynote at the ACM/SPEC Int'l Conference on Performance Engineering (ICPE), virtual event, 2021

Publishing your Research: Strategies, Prospects, and Pitfalls
Invited Lecture at the New Faculty Symposium of the Int'l Conference on Software Engineering, Gothenburg, Sweden, 2018

Understanding Organizational Evolution of Software Projects
Keynote at the Annual German Software Engineering Conference, Ulm, Germany, 2018

The New Feature Interaction Challenge,
Keynote at the Int'l Workshop on Variability Modelling of Software-intensive Systems, Eindhoven, The Netherlands, 2017

From Crosscutting Concerns to Feature Interactions: A Tale of Misunderstandings and Enlightenments, **Keynote** at the Int'l Conference on Modularity, Malaga, Spain, 2016

Conquering the Combinatorial Explosion: Analyzing Variable Software,
Keynote at the Brazilian Conference on Software: Theory and Practice, Maceió, Brazil, 2014

Language-Independent and Automated Software Composition: The FeatureHouse Experience,
Keynote at the Int'l Conference on Software Composition, Budapest, 2013

Supervision of Students

Ph.D. students (current)

Annabelle Bergum
Thomas Bock
Sebastian Böhm
Roman Haas
Christian Hechtl
Johannes Lampel
Anna-Maria Maurer
Raphael Nömmer
Florian Sattler
Georg Seibt
Christof Tinnes
Gustavo Do Vale
Kallistos Weis
Alisa Welter

Ph.D. students (graduated)

Dr. Christian Kaltenecker, 2024
Dr. Norman Peitek, 2022, **Dissertation Award (TU Chemnitz)**, co-advised with Prof. Janet Siegmund
Dr. Andreas Stahlbauer, 2020
Dr. Sergiy Kolesnikov, 2019
Dr. Mitchell Joblin, 2017, **Dissertation Award (University of Passau)**
Dr. Alexander von Rhein, 2016, **Dissertation Award (University of Passau)**
Dr. Jörg Liebig, 2015, **Software-Engineering Award (Ernst-Denert Foundation)**

Teaching (selected)

Lectures

Software Engineering, since 2010
Software Product Line Engineering, since 2011
Types and Programming Languages, since 2018
Introduction to Computer Science, 2018
Modern Programming Paradigms, 2007–2010
Propädeutikum Informatik, 2008–2009

Lab Exercises

Software Engineering Lab, since 2016

Publications (selected)

total: 259 h-index: 73 [1]

Electronic versions of all publications are available on the Web: https://www.se.cs.uni-saarland.de/apel/.

Dissertation

1. Sven Apel. *The Role of Features and Aspects in Software Development*. PhD thesis, School of Computer Science, University of Magdeburg, March 2007. **Software-Engineering Award of the Ernst-Denert Foundation**.

Books

1. Sven Apel, Don Batory, Christian Kästner, and Gunter Saake. *Feature-Oriented Software Product Lines: Concepts and Implementation*. Springer, October 2013. 315 pages.

Refereed Journal Articles (selected)

40. Clemens Dubslaff, Kallistos Weis, Christel Baier, and Sven Apel. Feature Causality. *Journal of Systems and Software (JSS)*, 2024. To appear.
39. Thomas Bock, Nils Alznauer, Mitchell Joblin, and Sven Apel. Automatic Core-Developer Identification on GitHub: A Validation Study. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 32(6):138, November 2023.
38. Florian Sattler, Sebastian Böhm, Philipp Schubert, Norbert Siegmund, and Sven Apel. SEAL: Integrating Program Analysis and Repository Mining. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 32(5):121, September 2023.
37. Mitchell Joblin, Barbara Eckl, Thomas Bock, Angelika Schmid, Janet Siegmund, and Sven Apel. Hierarchical and Hybrid Organizational Structures in Open-Source Software Projects. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 32(4):86, July 2023.
36. Johannes Dorn, Sven Apel, and Norbert Siegmund. Mastering Uncertainty in Performance Estimations of Configurable Software Systems. *Empirical Software Engineering (EMSE)*, 28(2):33, January 2023.
35. Gustavo do Vale, Claus Hunsen, Eduardo Figueiredo, and Sven Apel. Challenges of Resolving Merge Conflicts: A Mining and Survey Study. *IEEE Transactions on Software Engineering (TSE)*, 48(12):4964–4985, December 2022.
34. Georg Seibt, Florian Heck, Guilherme Cavalcanti, Paulo Borba, and Sven Apel. Leveraging Structure in Software Merge: An Empirical Study. *IEEE Transactions on Software Engineering (TSE)*, 48(11):4590–4610, November 2022.
33. Wolfgang Mauerer, Mitchell Joblin, Damian Tamburri, Carlos Paradis, Rick Kazman, and Sven Apel. In Search of Socio-Technical Congruence: A Large-Scale Longitudinal Study. *IEEE Transactions on Software Engineering (TSE)*, 48(8):3159–3184, August 2022.
32. Mitchell Joblin and Sven Apel. How Do Successful and Failed Projects Differ? A Socio-Technical Analysis. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 31(4):67, July 2022.
31. Sven Apel, Christian Kästner, and Eunsuk Kang. Feature Interactions on Steroids: On the Composition of ML Models. *IEEE Software*, 39(3):120–124, May 2022.
30. Thomas Bock, Angelika Schmid, and Sven Apel. Measuring and Modeling Group Dynamics in Open-Source Software Development: A Tensor Decomposition Approach. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 31(2):19, April 2022.
29. Norbert Siegmund, Johannes Dorn, Max Weber, Christian Kaltenecker, and Sven Apel. Green Configuration: Can AI Help in Reducing Energy Consumption of Configurable Software Systems? *IEEE Computer*, 55(3):74–81, March 2022.
28. Thiago Castro, Leopoldo Teixeira, Vander Alves, Sven Apel, Maxime Cordy, and Rohit Gheyi. A Formal Framework of Software Product Line Analyses. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 30(3):34, April 2021.
27. Janet Siegmund, Norman Peitek, Sven Apel, and Norbert Siegmund. Mastering Variation in Human Studies: The Role of Aggregation. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 30(1):2, January 2021.

[1] The h-index has been computed by Google Scholar.

26. Leonardo Passos, Rodrigo Queiroz, Mukelabai Mukelabai, Thorsten Berger, Sven Apel, Krzysztof Czarnecki, and Jesus Alejandro Padilla. A Study of Feature Scattering in the Linux Kernel. *IEEE Transactions on Software Engineering (TSE)*, 47(1):146–164, January 2021.
25. Vivek Nair, Zhe Yu, Tim Menzies, Norbert Siegmund, and Sven Apel. Finding Faster Configurations using FLASH. *IEEE Transactions on Software Engineering (TSE)*, 46(7):794–811, July 2020.
24. Christian Kaltenecker, Alexander Grebhahn, Norbert Siegmund, and Sven Apel. The Interplay of Sampling and Machine Learning for Software Performance Prediction. *IEEE Software*, 37(4):58–66, July 2020.
23. Janet Siegmund, Norman Peitek, André Brechmann, Chris Parnin, and Sven Apel. Studying Programming in the Neuroage: Just a Crazy Idea? *Communications of the ACM*, 63(6):30–34, June 2020.
22. Norman Peitek, Janet Siegmund, Sven Apel, Christian Kästner, Chris Parnin, Anja Bethmann, Thomas Leich, Gunter Saake, and André Brechmann. A Look into Programmers' Heads. *IEEE Transactions on Software Engineering (TSE)*, 46(4):442–462, April 2020.
21. Roman Haas, Rainer Niedermayr, Tobias Roehm, and Sven Apel. Is Static Analysis Able to Identify Unnecessary Source Code? *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 29(1):6, March 2020.
20. Andreas Simbürger, Sven Apel, Armin Größlinger, and Christian Lengauer. PolyJIT: Polyhedral Optimization Just in Time. *International Journal of Parallel Programming (IJPP)*, 47(5):874–906, December 2019.
19. Flávio Medeiros, Gabriel Lima, Guilherme Amaral, Sven Apel, Christian Kästner, Márcio Ribeiro, and Rohit Gheyi. An Investigation of Misunderstanding Code Patterns in C Open-Source Software Projects. *Empirical Software Engineering (EMSE)*, 24(4):1693–1726, August 2019.
18. Stefan Ganser, Armin Größlinger, Norbert Siegmund, Sven Apel, and Christian Lengauer. Speeding up Iterative Polyhedral Schedule Optimization with Surrogate Performance Models. *ACM Transactions on Architecture and Code Optimization (TACO)*, 15(4):56, January 2019.
17. Alexander von Rhein, Jörg Liebig, Andreas Janker, Christian Kästner, and Sven Apel. Variability-Aware Static Analysis at Scale: An Empirical Study. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 27(4):18, November 2018.
16. Jianmei Guo, Dingyu Yang, Norbert Siegmund, Sven Apel, Atrisha Sarkar, Pavel Valov, Krzysztof Czarnecki, Andrzej Wasowski, and Huiqun Yu. Data-Efficient Performance Learning for Configurable Systems. *Empirical Software Engineering (EMSE)*, 23(3):1826–1867, June 2018.
15. Claire Le Goues, Yuriy Brun, Sven Apel, Emery Berger, Sarfrad Khurshid, and Yannis Smaragdakis. Effectiveness of Anonymization in Double-Blind Review. *Communications of the ACM*, 61(6):30–33, May 2018.
14. Flavio Medeiros, Marcio Ribeiro, Rohit Gheyi, Sven Apel, Christian Kästner, Bruno Ferreira, Luiz Carvalho, and Baldoino Fonseca. Discipline Matters: Refactoring of Preprocessor Directives in the #ifdef Hell. *IEEE Transactions on Software Engineering (TSE)*, 44(5):453–469, May 2018.
13. Stefan Ganser, Armin Größlinger, Norbert Siegmund, Sven Apel, and Christian Lengauer. Iterative Schedule Optimization for Parallelization in the Polyhedron Model. *ACM Transactions on Architecture and Code Optimization (TACO)*, 14(3):23, September 2017.
12. Mitchell Joblin, Sven Apel, and Wolfgang Mauerer. Evolutionary Trends of Developer Coordination: A Network Approach. *Empirical Software Engineering (EMSE)*, 22(4):2050–2094, August 2017.
11. Jörg Liebig, Sven Apel, Andreas Janker, Florian Garbe, and Sebastian Oster. Handling Static Configurability in Refactoring Engines. *IEEE Computer*, 50(7):44–53, July 2017.
10. Leonardo Passos, Leopoldo Teixeira, Nicolas Dintzner, Sven Apel, Andrzej Wasowski, Krzysztof Czarnecki, Paulo Borba, and Jianmei Guo. Coevolution of Variability Models and Related Software Artifacts: A Fresh Look at Evolution Patterns in the Linux Kernel. *Empirical Software Engineering (EMSE)*, 21(4):1744–1793, August 2016.
9. Claus Hunsen, Bo Zhang, Janet Siegmund, Christian Kästner, Olaf Lessenich, Martin Becker, and Sven Apel. Preprocessor-Based Variability in Open-Source and Industrial Software Systems: An Empirical Study. *Empirical Software Engineering (EMSE)*, 21(2):449–482, April 2016.
8. Janet Siegmund, Christian Kästner, Jörg Liebig, Sven Apel, and Stefan Hanenberg. Measuring and Modeling Programming Experience. *Empirical Software Engineering (EMSE)*, 19(5):1299–1334, October 2014. **ICPC Most Influential Paper Award 2022**.

7. Thomas Thüm, Sven Apel, Christian Kästner, Ina Schaefer, and Gunter Saake. A Classification and Survey of Analysis Strategies for Software Product Lines. *ACM Computing Surveys*, 47(1):6, June 2014.
6. Janet Feigenspan, Christian Kästner, Sven Apel, Jörg Liebig, Michael Schulze, Raimund Dachselt, Maria Papendieck, Thomas Leich, and Gunter Saake. Do Background Colors Improve Program Comprehension in the #ifdef Hell? *Empirical Software Engineering (EMSE)*, 18(4):699–745, July 2013.
5. Sven Apel, Christian Kästner, and Christian Lengauer. Language-Independent and Automated Software Composition: The FeatureHouse Experience. *IEEE Transactions on Software Engineering (TSE)*, 39(1):63–79, January 2013.
4. Christian Kästner, Sven Apel, Thomas Thüm, and Gunter Saake. Type Checking Annotation-Based Product Lines. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 21(3):14, June 2012.
3. Friedrich Steimann, Thomas Pawlitzki, Sven Apel, and Christian Kästner. Types and Modularity for Implicit Invocation with Implicit Announcement. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 20(1):1, June 2010.
2. Sven Apel and DeLesley Hutchins. A Calculus for Uniform Feature Composition. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 32(5):19, May 2010.
1. Sven Apel, Thomas Leich, and Gunter Saake. Aspectual Feature Modules. *IEEE Transactions on Software Engineering (TSE)*, 34(2):162–180, April 2008.

Refereed Conference Papers (selected)

46. Stefan Mühlbauer, Florian Sattler, Christian Kaltenecker, Johannes Dorn, Sven Apel, and Norbert Siegmund. Analyzing the Impact of Workloads on Modeling the Performance of Configurable Software Systems. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 2085–2097. IEEE, May 2023. Acceptance rate: 26% (209 / 796).
45. Max Weber, Christian Kaltenecker, Florian Sattler, Sven Apel, and Norbert Siegmund. Twins or False Friends? A Study on Energy Consumption and Performance of Configurable Software. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 2098–2110. IEEE, May 2023. Acceptance rate: 26% (209 / 796).
44. Norman Peitek, Annabelle Bergum, Maurice Rekrut, Jonas Mucke, Matthias Nadig, Chris Parnin, Janet Siegmund, and Sven Apel. Correlates of Programmer Efficacy and their Link to Experience: A Combined EEG and Eye-Tracking Study. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 120–131. ACM, November 2022. Acceptance rate: 22% (99 / 449).
43. Clemens Dubslaff, Kallistos Weis, Christel Baier, and Sven Apel. Causality in Configurable Software Systems. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 325–337. ACM, May 2022. Acceptance rate: 26% (197 / 751).
42. Miguel Velez, Pooyan Jamshidi, Norbert Siegmund, Sven Apel, and Christian Kästner. On Debugging the Performance of Configurable Software Systems: Developer Needs and Tailored Tool Support. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 1571–1583. ACM, May 2022. Acceptance rate: 26% (197 / 751).
41. Christof Tinnes, Timo Kehrer, Mitchell Joblin, Uwe Hohenstein, Andreas Biesdorf, and Sven Apel. Learning Domain-Specific Edit Operations from Model Repositories with Frequent Subgraph Mining. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 930–942. IEEE, November 2021. Acceptance rate: 20% (82 / 414).
40. Norman Peitek, Sven Apel, Chris Parnin, André Brechmann, and Janet Siegmund. Program Comprehension and Code Complexity Metrics: An fMRI Study. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 524–536. IEEE, May 2021. Acceptance rate: 23% (138 / 602). **ACM SIGSOFT Distinguished Paper Award**.
39. Max Weber, Sven Apel, and Norbert Siegmund. White-Box Performance-Influence Models: A Profiling and Learning Approach. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 1059–1071. IEEE, May 2021. Acceptance rate: 23% (138 / 602).
38. Miguel Velez, Pooyan Jamshidi, Norbert Siegmund, Sven Apel, and Christian Kästner. White-Box Analysis over Machine Learning: Modeling Performance of Configurable Systems. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 1072–1084. IEEE, May 2021. Acceptance rate: 23% (138 / 602).

37. Johannes Dorn, Sven Apel, and Norbert Siegmund. Mastering Uncertainty in Performance Estimations of Configurable Software Systems. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 684–696. ACM, September 2020. Acceptance rate: 23% (93 / 408).
36. Stefan Mühlbauer, Sven Apel, and Norbert Siegmund. Identifying Software Performance Changes Across Variants and Versions. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 611–622. ACM, September 2020. Acceptance rate: 23% (93 / 408).
35. Dan Gopstein, Anne-Laure Fayard, Sven Apel, and Justin Cappos. Thinking Aloud About Confusing Code: A Qualitative Investigation of Program Comprehension and Atoms of Confusion. In *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 605–616. ACM, November 2020. Acceptance rate: 28% (101 / 360).
34. Guilherme Cavalcanti, Paulo Borba, Georg Seibt, and Sven Apel. The Impact of Structure on Software Merging: Semistructured versus Structured Merge. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 1002–1013. IEEE, November 2019. Acceptance rate: 25% (93 / 373).
33. Stefan Mühlbauer, Sven Apel, and Norbert Siegmund. Accurate Modeling of Performance Histories for Evolving Software Systems. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 640–652. IEEE, November 2019. Acceptance rate: 25% (93 / 373).
32. Christian Kaltenecker, Alexander Grebhahn, Norbert Siegmund, Jianmei Guo, and Sven Apel. Distance-Based Sampling of Software Configuration Spaces. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 1084–1094. IEEE, May 2019. Acceptance rate: 21% (109 / 529).
31. Olaf Leßenich, Sven Apel, Christian Kästner, Georg Seibt, and Janet Siegmund. Renaming and Shifted Code in Structured Merging: Looking Ahead for Precision and Performance. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 543–553. IEEE, November 2017. Acceptance rate: 21% (67 / 322).
30. Norbert Siegmund, Stefan Sobernig, and Sven Apel. Attributed Variability Models: Outside the Comfort Zone. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 268–278. ACM, September 2017. Acceptance rate: 24% (72 / 295).
29. Vivek Nair, Tim Menzies, Norbert Siegmund, and Sven Apel. Using Bad Learners to find Good Configurations. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 257–267. ACM, September 2017. Acceptance rate: 24% (72 / 295).
28. Janet Siegmund, Norman Peitek, Chris Parnin, Sven Apel, Johannes Hofmeister, Christian Kästner, Andrew Begel, Anja Bethmann, and André Brechmann. Measuring Neural Efficiency of Program Comprehension. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 140–150. ACM, September 2017. Acceptance rate: 24% (72 / 295).
27. Mitchell Joblin, Sven Apel, Claus Hunsen, and Wolfgang Mauerer. Classifying Developers into Core and Peripheral: An Empirical Study on Count and Network Metrics. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 164–174. IEEE, May 2017. Acceptance rate: 16% (68 / 415).
26. Sven Apel, Dirk Beyer, Vitaly Mordan, Vadim Mutilin, and Andreas Stahlbauer. On-The-Fly Decomposition of Specifications in Software Model Checking. In *Proceedings of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE)*, pages 349–361. ACM, November 2016. Acceptance rate: 27% (74 / 273).
25. Flávio Medeiros, Christian Kästner, Márcio Ribeiro, Rohit Gheyi, and Sven Apel. A Comparison of 10 Sampling Algorithms for Configurable Systems. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 643–654. ACM, May 2016. Acceptance rate: 19% (101 / 530).
24. Andreas Wölfl, Norbert Siegmund, Sven Apel, Harald Kosch, Johann Krautlager, and Guillermo Weber-Urbina. Generating Qualifiable Avionics Software: An Experience Report. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 726–736. IEEE, November 2015. Acceptance rate: 21% (60 / 289).
23. Atri Sarkar, Jianmei Guo, Norbert Siegmund, Sven Apel, and Krzysztof Czarnecki. Cost-Efficient Sampling for Performance Prediction of Configurable Systems. In *Proceedings of the International Conference on Automated Software Engineering (ASE)*, pages 342–352. IEEE, November 2015. Accep-

tance rate: 21% (60 / 289).

22. Norbert Siegmund, Alexander Grebhahn, Sven Apel, and Christian Kästner. Performance-Influence Models for Highly Configurable Systems. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 284–294. ACM, August 2015. Acceptance rate: 25% (74 / 291).
21. Janet Siegmund, Norbert Siegmund, and Sven Apel. Views on Internal and External Validity in Empirical Software Engineering. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 9–19. IEEE, May 2015. Acceptance rate: 19% (84 / 452). **ACM SIGSOFT Distinguished Paper Award**.
20. Alexander von Rhein, Alexander Grebhahn, Sven Apel, Norbert Siegmund, Dirk Beyer, and Thorsten Berger. Presence-Condition Simplification in Highly Configurable Systems. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 178–188. IEEE, May 2015. Acceptance rate: 19% (84 / 452).
19. Jörg Liebig, Andreas Janker, Florian Garbe, Sven Apel, and Christian Lengauer. Morpheus: Variability-Aware Refactoring in the Wild. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 380–391. IEEE, May 2015. Acceptance rate: 19% (84 / 452).
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