

# Christian Kästner

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## Curriculum Vitae

Affiliation Associate Professor  
School of Computer Science, Software and Societal Systems Department  
Carnegie Mellon University

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## Profile

Associate professor in the Software and Societal Systems Department at the School of Computer Science at Carnegie Mellon University interested in *limits of modularity* and *variability* in software systems, as well as open-source sustainability and software engineering for AI-enabled systems. Developing mechanisms, languages, and tools to implement variability in a disciplined way, to detect errors, to help with nonmodular changes, and to improve program comprehension in software systems, often focused on systems with a high amount of variability. Also interested in *open-source sustainability* and *software engineering for AI-enabled systems*.

## Education

Apr. 2007 – May 2010 Doctoral degree in computer science (Doktor-Ingenieur),  
University of Magdeburg, Germany,  
Summa cum laude (with distinction)  
Committee: Prof. Gunter Saake (University of Magdeburg), Prof. Don Batory (University of Texas at Austin), Prof. Krzysztof Czarnecki (University of Waterloo)

Oct. 2002 – Mar. 2007 Diploma degree in business information systems  
(M.Sc. equivalent; Diplom-Wirtschaftsinformatiker),  
University of Magdeburg, Germany,  
Grade “1.0” (with distinction)

## Academic Employment

since Sep. 2019 Director of the Software Engineering Ph.D. Program,  
Carnegie Mellon University

since Jul. 2018 Associate Professor,  
Carnegie Mellon University

Sep. 2012 – Jun. 2018 Assistant Professor,  
Carnegie Mellon University

Jul. 2010 – Aug. 2012 Researcher (Post-Doc),  
Host: Prof. Klaus Ostermann,  
Philipps University Marburg, Germany

Apr. 2007 – Jun. 2010 Research Assistant,  
Host: Prof. Gunter Saake,  
University of Magdeburg, Germany

Oct. 2006 – Mar. 2007 Visiting scholar,  
Host: Prof. Don Batory  
University of Texas at Austin, USA

Oct. 2005 – Sep. 2006 Student Research Assistant,  
Host: Prof. Gunter Saake,  
University of Magdeburg, Germany

## Awards and Honors

Jun. 2025 Distinguished-Paper Award at the International Conference on the Foundations of Software Engineering (FSE) 2025

May. 2025 Distinguished-Paper Award at the International Conference on Software Engineering (ICSE) 2025

May. 2022 Two Distinguished-Paper Awards at the International Conference on Software Engineering (ICSE) 2022

Oct. 2021 10-year Most Influential Paper of ICPC'12 for Measuring Programming Experience

Oct. 2021 Distinguished Reviewer Award at the International Conference on Automated Software Engineering (ASE) 2021

Oct. 2021 10-year Most Influential Paper of OOPSLA'11 for SugarJ: Library Based Syntactic Language Extensibility

Nov. 2020 Distinguished Program Committee Member Award at the International Conference on Automated Software Engineering (ASE) 2020

Sep. 2019 10-year Most Influential Paper Award at the International Conference on Software Product Lines (SPLC) 2019

Nov. 2017 Distinguished Reviewer Award at the International Conference on Automated Software Engineering (ASE) 2017

May. 2017 Distinguished Reviewer Award at the International Conference on Software Engineering (ICSE) 2017

Nov. 2015 Distinguished Reviewer Award at the International Conference on Automated Software Engineering (ASE) 2015

Oct. 2011 **GI-Dissertationspreis:** Best Dissertation Award of the German Computer Science Association, 2010

Oct. 2011 Distinguished-Paper Award at the International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA) 2011

Aug. 2011 Best-Research-Paper Award at the International Software Product Line Conference 2011

Nov. 2010 Best-Dissertation Award of the School of Computer Science, University of Magdeburg, 2010

Dec. 2009 Research Award of the School of Computer Science, University of Magdeburg for the Best Paper, 2009

Sep. 2007 Software Engineering Award of the Denert Foundation for the Best Master's Thesis, 2007

Oct. 2007 Best-Graduate Award of the School of Computer Science, University of Magdeburg, 2007

Sep. 2006 Student Scholarship of the Germany Academic Exchange Service

## Invited Talks

Feb. 2025 From Models to Products: On the Role of Software Engineering for Machine Learning,  
SEI, National AI Engineering Study Speaker Series

Jan. 2025 From Models to Products: On the Role of Software Engineering for Machine Learning,  
York University, AI+SE Seminar Series

Jan. 2025 From Models to Products: On the Role of Software Engineering for Machine Learning,  
University of Paderborn, Distinguished Lecture

Apr. 2024 From Models to Products: On the Role of Software Engineering for Machine Learning,  
CAIN 2024 Keynote

May. 2022 From Models to Systems: Rethinking the Role of Software Engineering for Machine Learning,  
Yale University

Jul. 2022 From Models to Systems: Teaching Software Engineering to Data Scientists,  
SEI SE Workshop for Educators 2022

May. 2022 From Models to Systems: Rethinking the Role of Software Engineering for Machine Learning,  
Keynote at 2022 Int'l Conf. Mining Software Repositories

Mar. 2021 Toward a System-Wide and Interdisciplinary Perspective on ML System Performance,  
Keynote at FastPath'21 Workshop

Sep. 2020 Analyzing Tens of Terabytes of Public Trace Data & Open Source Sustainability,  
State of the Source

Jun. 2020 Engineering AI-Enabled Systems with Interdisciplinary Teams,  
Software Engineering for Machine Learning Applications (SEMLA) International Symposium

Apr. 2020 Software Engineering for ML-Enabled Systems,  
Code and Supply Meetup

Mar. 2020 Teaching Software Engineering for AI-Enabled Systems,  
Dagstuhl Seminar 20091: SE4ML - Software Engineering for AI-ML-based Systems

Sep. 2019 Performance Analysis for Highly-Configurable Systems,  
Keynote for the 2019 System and Software Product Line Conference (SPLC)

Sep. 2019 Granularity in Software Product Lines: 12 Years Later,  
Most Influential Paper Award Talk at the 2019 System and Software Product Line Conference (SPLC)

Sep. 2019 Efficiently Finding Higher-Order Mutants,  
Saarland University

Feb. 2019 How to Break an API: How Community Values Influence Practices,  
University of South Carolina

Jul. 2018 How to Break an API: How Community Values Influence Practices,  
École Polytechnique de Montréal

May. 2017 How to Break an API: How Community Values Influence Practices,  
Speaker at jsconf.eu

May. 2016 Quality Assurance for Highly-Configurable Systems,  
Keynote Talk for the VACE Workshop at ICSE'16

Nov. 2015 Starting an Academic Career – Reflecting on Habits that Worked for Me,  
Keynote Talk for the ASE 2015 Doctoral Symposium

Oct. 2015 Parsing Unpreprocessed C Code - The TypeChef Experience,  
Keynote Talk for the Parsing@SLE Workshop at SPLASH'15

Sep. 2015 Understanding Feature Interactions: From Bugs to Performance Surprises,  
Keynote at Brazilian Symposium on Software Components, Architectures,  
and Reuse (SBCARS)

Jul. 2014 Feature Interactions in Software Systems An Implementation Perspective,  
Dagstuhl Seminar 14281: Feature Interactions: The Next Generation

Jun. 2014 Analyzing Highly-Configurable Software Systems,  
University of Toronto – Workshop on the State of the Art in Automated  
Software Engineering Research

Apr. 2014 Quality Assurance for Highly-Configurable Systems,  
University of Magdeburg, Germany

Apr. 2014 Analysis of Software Product Lines,  
Dagstuhl Seminar 14172: Unifying Product and Software Configuration

Dec. 2013 Variability Mining,  
University of Waterloo – Product Line Engineering Workshop

Dec. 2013 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
University of Nebraska at Lincoln, Lincoln, NE

Aug. 2013 Analyzing Highly Configurable Systems: From Linux to Eclipse,  
Technical University Darmstadt, Germany

Aug. 2013 Accepting Change - Awareness instead of Stability Guarantees,  
University of Passau, Germany

Feb. 2013 Analyzing the #ifdef Hell with TypeChef – Or the Quest for Realistic Subjects  
in Product-Line Analysis,  
Dagstuhl Seminar 13091: Analysis, Test and Verification in The Presence  
of Variability

Dec. 2012 A Variability-Aware Module System,  
Dagstuhl Seminar 12511: Divide and Conquer: the Quest for Compositional  
Design and Analysis

Apr. 2012 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
University of Passau, Germany

Apr. 2012 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
Carnegie Mellon University, Pittsburgh, PA

Apr. 2012 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
University of Edinburgh, UK

Mar. 2012 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
Purdue University, West Lafayette, IN

Dec. 2011 Parsing and Type Checking all  $2^{10000}$  Configurations of the Linux Kernel,  
Technical University Ilmenau, Germany

Oct. 2011 Virtual Separation of Concerns,  
Oregon State University, Corvallis, OR

Oct. 2011 Modularity in Feature-Oriented Software Development,  
University of Texas at Austin, TX

Jun. 2011 Virtual Separation of Concerns: Toward Preprocessors 2.0,  
Kolloquium zum GI Dissertationspreis 2010 at Dagstuhl 11222

Jan. 2011 Variability-Aware Analysis: Type Checking entire Product Lines,  
Dagstuhl Seminar 11021: Feature-Oriented Software Development

Dec. 2010 Modularity – Current State and Challenges,  
University of Waterloo, ON

Dec. 2010 Variability Analysis of C Code in the Presence of Lexical Macros and Con-  
ditional Compilation,  
IFIP WG 2.11 Meeting, Waterloo, ON

Jul. 2010 From Aspectual Decomposition to Virtual Separation of Concerns,  
Colloquium Honorary Doctorate Ernst Denert, University of Kaiserslautern

May. 2010 Virtual Separation of Concerns: Toward Preprocessors 2.0,  
Philipps University Marburg, Germany

Apr. 2010 Virtual Separation of Concerns: Toward Preprocessors 2.0,  
University of Namur (FUNDP), Belgium

Mar. 2010 Virtual Separation of Concerns: Toward Preprocessors 2.0,  
IFIP WG 2.11 Meeting, St. Andrews, UK

Jul. 2008 Decomposing Berkeley DB: Granularity and Interactions,  
Dagstuhl Seminar 08281: Software Engineering for Tailor-made Data Man-  
agement

## Teaching

### Courses

F22, F24 17-445/645 Machine Learning in Production

S21, S22, S23, S24 17-445/645 Machine Learning in Production / 11-695 AI Engineering

F21, F23 17-214 Principles of Software Construction: Objects, Design, and Concur-  
rency

F19, S20, F20 17-445/645 Software Engineering for AI-Enabled Systems

S18, S19, S20 17-654 Analysis of Software Artifacts

F18 17-313 Foundations of Software Engineering

F13, F14, F15, F16, F17 15-313 Foundations of Software Engineering

S13, S14, S15, S17 15-214 Principles of Software Construction: Objects, Design, and Concur-  
rency

F15 17-708 Software Product Lines: Concepts and Implementation

S12 Empirical Methods for Computer Scientists (in German)

S11 Software Product Lines: Concepts and Implementation (in German)

F10 Software Engineering (in German)

S08, S09, S10 Student Conference on Software Engineering and Database Systems

F08, F09 Product-Line Implementation for Tailor-Made Data Management (in Ger-  
man)

## **Exercise Classes, Seminars, and Others**

- PRG Paper Reading Group
- S12 Empirical Methods for Computer Scientists (in German)
- S11 Software Product Lines: Concepts and Implementation (in German)
- F10 Software Product Lines (in German)
- S07, S08, S09, S10 Concepts of Database Implementation (in German)
- F07, F08, F09 Product-Line Implementation for Tailor-Made Data Management (in German)
- S09 Specification Technologies (in German)
- S07 Advanced Database Models
- F04, F05 Cost Accounting (in German)
- S04 Algorithms and Data Structures (in German)

## **Memberships**

- IFIP Working Group 2.11 (Program Generation)
- Association for Computing Machinery (ACM)
- Deutscher Hochschulverband

## **Professional Service**

### **Editorships**

- TOSEM Associate Editor, ACM Transactions on Software Engineering and Methodology (2019–2022)

### **Organization Committees**

- ICSE-SEET 2027 ICSE Software Engineering Education and Training Track – Program-Committee Co-Chair
- ICSE 2022 44th International Conference on Software Engineering – Conference Chair
- ASE 2018 33rd IEEE/ACM International Conference on Automated Software Engineering – Program-Committee Co-Chair
- ASE 2017 32nd IEEE/ACM International Conference on Automated Software Engineering – Doctoral Symposium Co-Chair
- GPCE 2015 14th ACM International Conference on Generative Programming and Component Engineering – General Chair
- FOSD 2014 6th International Workshop on Feature-Oriented Software Development – Organization-Committee Member
- GPCE 2014 13rd ACM International Conference on Generative Programming and Component Engineering – Steering-Committee Member
- GPCE 2013 12nd ACM International Conference on Generative Programming and Component Engineering – Program-Committee Chair
- FOSD 2013 5th International Workshop on Feature-Oriented Software Development – Organization-Committee Member

FOSD 2012 4th International Workshop on Feature-Oriented Software Development – Organization-Committee Member

ESCOT 2012 3rd International Workshop on Empirical Evaluation of Software Composition Techniques – Organization-Committee Member

FOSD 2011 3rd International Workshop on Feature-Oriented Software Development – Organization-Committee Member

FOSD 2010 2nd International Workshop on Feature-Oriented Software Development – Organization-Committee Member

FOSD 2009 1st International Workshop on Feature-Oriented Software Development – Organization-Committee Member

FOSD-Me. 2009-21 Annual Meeting on Feature-Oriented Software Development (2009 Passau, 2010 Magdeburg, 2011 Dresden, 2012 Braunschweig, 2013 and 2014 Dagstuhl, 2015 Traunkirchen, 2016 Copenhagen, 2017 Darmstadt, 2018 Gothenburg, 2019 Weimar, 2021 Vienna)

#### **Program Committees (Conferences)**

CAIN 2025 4th International Conference on AI Engineering - Software Engineering for AI

OOPSLA 2025 40th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications

FSE 2025 ACM SIGSOFT Symposium on the Foundations of Software Engineering

CAIN 2024 3rd International Conference on AI Engineering - Software Engineering for AI

FSE 2024 ACM SIGSOFT Symposium on the Foundations of Software Engineering

ICSE 2024 46th International Conference on Software Engineering

CAIN 2023 2nd International Conference on AI Engineering - Software Engineering for AI

ICSE 2022 44th International Conference on Software Engineering – Conference Chair, Program-Committee Member

ASE 2021 36th IEEE/ACM International Conference on Automated Software Engineering

ESEC/FSE 2021 European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering

ASE 2020 35th IEEE/ACM International Conference on Automated Software Engineering

SPLC 2020 24th International Software Product Line Conference

ICSE 2020 42nd International Conference on Software Engineering – Program-Committee Member, Student Mentoring Program Co-Chair

ESEC/FSE 2019 European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering – Program-Committee Member, Journal First Co-Chair

ASE 2019 34th IEEE/ACM International Conference on Automated Software Engineering

SPLC 2019 23rd International Software Product Line Conference

OOPSLA 2019 34th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications – External-Review-Committee Member

ICSE-NIER 2019 ICSE New Ideas and Emerging Results (NIER)

ICSE 2018 40th International Conference on Software Engineering

SE 2018 Software Engineering Conference of the Gesellschaft für Informatik (GI)

ECOOP 2017 31st European Conference on Object-Oriented Programming

ASE 2017 32nd IEEE/ACM International Conference on Automated Software Engineering – Program-Committee Member, Doctoral Symposium Co-Chair

ICSE 2017 39th International Conference on Software Engineering

ESEC/FSE 2017 European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering

ASE 2016 31st IEEE/ACM International Conference on Automated Software Engineering – External-Review-Committee Member

ECOOP 2016 30th European Conference on Object-Oriented Programming – External-Review-Committee Member

SPLC 2016 20th International Software Product Line Conference

MV 2016 MODULARITY 2016 - Modularity Visions Track

ASE 2015 30th IEEE/ACM International Conference on Automated Software Engineering

SBCARS 2015 Brazilian Symposium on Software Components, Architectures and Reuse

SPLC 2015 19th International Software Product Line Conference

SPLC 2014 18th International Software Product Line Conference

ASE 2014 29th IEEE/ACM International Conference on Automated Software Engineering

ECOOP 2014 28th European Conference on Object-Oriented Programming – External-Review-Committee Member

MV 2014 MODULARITY 2014 - Modularity Visions Track

OOPSLA 2013 28th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications

SE 2013 SE 13 – GI Konferenz Software Engineering

GPCE 2012 11st ACM International Conference on Generative Programming and Component Engineering

SC 2011 10th International Conference on Software Composition

GPCE 2011 10th ACM International Conference on Generative Programming and Component Engineering

#### **Program Committees (Workshops and Other)**

SQA4AI 2025 Workshop on Software Quality Assurance for Artificial Intelligence

VaMoS 2023 17th Int'l Workshop on Variability Modelling of Software-Intensive Systems

VaMoS 2021 15th Int'l Workshop on Variability Modelling of Software-Intensive Systems

VaMoS 2020 14th Int'l Workshop on Variability Modelling of Software-Intensive Systems

VaMoS 2019 13rd Int'l Workshop on Variability Modelling of Software-Intensive Systems

SPLTea 2018 Third International Workshop on Software Product Line Teaching

VaMoS 2018 12nd Int'l Workshop on Variability Modelling of Software-Intensive Systems

WAPI 2017 ICSE Workshop on API Usage and Evolution

VaMoS 2017 11st Int'l Workshop on Variability Modelling of Software-Intensive Systems

RELENG 2016 4th International Workshop on Release Engineering

VaMoS 2016 10th Int'l Workshop on Variability Modelling of Software-Intensive Systems

VaMoS 2015 9th Int'l Workshop on Variability Modelling of Software-Intensive Systems

SPLTea 2015 Second International Workshop on Software Product Line Teaching

ICSE-D 2015 International Conference on Software Engineering – Demonstrations Committee

MultiPLE 2014 SPLC Workshop on Multi Product Line Engineering

SPLat 2014 Software Product Line Analysis Tools 2014

SPLTea 2014 First International Workshop on Software Product Line Teaching

REVE 2014 2nd Workshop on Reverse Variability Engineering

ICSE-TB 2014 ICSE 2014 - Tutorial and Technical Briefings Track

VaMoS 2014 8th Int'l Workshop on Variability Modelling of Software-Intensive Systems

SCORE 2013 Student Contest on Software Engineering at ICSE

MPLE 2013 SPLC Workshop on Multi Product Line Engineering

VaMoS 2013 7th Int'l Workshop on Variability Modelling of Software-Intensive Systems

REVE 2013 1st Workshop on Reverse Variability Engineering

SLE-DS 2012 International Conference on Software Language Engineering - Doctoral Symposium

SPLC-TD 2012 16th International Software Product Line Conference - Tools and Demonstrations Track

NFPinDSML 2012 4th Workshop on Non-functional System Properties and Domain Specific Modeling Languages

RAM-SE 2012 10th Workshop on Reflection, AOP and Meta-Data for Software Evolution

MISS 2012 2nd Workshop on Modularity in Systems Software

PEPM 2012 21st ACM SIGPLAN Workshop on Partial Evaluation and Program Manipulation

VaMoS 2012 6th Int'l Workshop on Variability Modelling of Software-Intensive Systems

FREECO 2011 ECOOP Workshop on Free Composition

ASE-TD 2010 25th International Conference on Automated Software Engineering – Tool Demonstration Committee

PLEERPS 2010 Workshop on Product-Line Engineering for Enterprise Resource Planning Systems

## Reviewing

TSE 2024 IEEE Transactions on Software Engineering

IEEE S&P 2024 IEEE Security & Privacy

TSE 2023 IEEE Transactions on Software Engineering

JSS 2023 Journal of Systems and Software

ESEM 2023 17th International Symposium on Empirical Software Engineering and Measurement

ESEM 2022 16th International Symposium on Empirical Software Engineering and Measurement

TSE 2021 IEEE Transactions on Software Engineering

TOSEM 2021 ACM Transactions on Software Engineering and Methodology

SCP 2021 Science of Computer Programming

TSE 2020 IEEE Transactions on Software Engineering

AUSE 2020 Automated Software Engineering – An International Journal

EMSE 2020 Empirical Software Engineering

TOSEM 2019 ACM Transactions on Software Engineering and Methodology

TSE 2019 IEEE Transactions on Software Engineering

TOSEM 2018 ACM Transactions on Software Engineering and Methodology

IST 2018 Information and Software Technology

AUSE 2018 Automated Software Engineering – An International Journal

TSE 2018 IEEE Transactions on Software Engineering

EMSE 2017 Empirical Software Engineering

TSE 2017 IEEE Transactions on Software Engineering

TSE 2016 IEEE Transactions on Software Engineering

SOSYM 2016 International Journal on Software and Systems Modeling

COMLAN 2016 Journal of Computer Languages, Systems & Structures

TSE 2015 IEEE Transactions on Software Engineering

SPE 2015 Software: Practice and Experience

SCP 2014 Science of Computer Programming

JOSER 2014 Journal of Software Engineering in Robotics

TSE 2014 IEEE Transactions on Software Engineering

TOPLAS 2012 ACM Transactions on Programming Languages and Systems

EMSE 2012 Empirical Software Engineering

JSEP 2012 Journal of Software: Evolution and Process

HOSC 2012 Higher-Order and Symbolic Computation

AI 2012 Acta Informatica

SPE 2012 Software: Practice and Experience

SCP 2012 Science of Computer Programming

TOSEM 2011 ACM Transactions on Software Engineering and Methodology

JSS 2012 Journal of Systems and Software

IST 2011 Information and Software Technology

STTT 2011 Software Tools for Technology Transfer

SCP 2011 Science of Computer Programming

IST 2010 Information and Software Technology

TSE 2010 IEEE Transactions on Software Engineering

SCP 2010 Science of Computer Programming

IS 2009 IEEE Software

#### **Blog posts, video, and other media**

Jan. 2025 From Models to Products: On the Role of Software Engineering for Machine Learning | CAIN'24 Keynote, Talk, <https://www.youtube.com/watch?v=G-N1iBYYXVo>

Aug. 2023 Secure Software Supply Chain Center, Website, <https://s3c2.org/>

May. 2022 From Models to Systems: Rethinking the Role of Software Engineering for Machine Learning | MSR'22 Keynote, Talk, [https://www.youtube.com/watch?v=\\_m-m90S\\_4Gg](https://www.youtube.com/watch?v=_m-m90S_4Gg)

Mar. 2021 Toward a System-Wide and Interdisciplinary Perspective on ML System Performance | FastPath'21 Workshop Keynote, Talk, <https://www.youtube.com/watch?v=SGJogMiRkWU>

Mar. 2021 Rediscovering Unit Testing: Testing Capabilities of ML Models, Blog post, <https://ckaestne.medium.com/rediscovering-unit-testing-testing-capabilities-of-ml-models>

Jan. 2021 Why Robustness is not Enough for Safety and Security in Machine Learning, Blog post, <https://ckaestne.medium.com/why-robustness-is-not-enough-for-safety-and-security-in-machine-learning>

Nov. 2020 On the Process for Building Software with ML Components, Blog post, <https://ckaestne.medium.com/on-the-process-for-building-software-with-ml-components>

Oct. 2020 The World and the Machine and Responsible Machine Learning, Blog post, <https://ckaestne.medium.com/the-world-and-the-machine-and-responsible-machine-learning>

Sep. 2020 State of the Source 2020: Analyzing Tens of Terabytes of Public Trace Data & Open Source Sustainability, Talk with B. Vasilescu, <https://www.youtube.com/watch?v=y4cpIaN3tFc>

Sep. 2020 What the Fork? Shurui Zhou on Forking in Open Source | Sustain Podcast, Podcast by S. Zhou, <https://podcast.sustainoss.org/53>

Aug. 2020 Complete Lecture Recordings: Software Engineering for AI-Enabled Systems, Lecture, <https://www.youtube.com/playlist?list=PLDS2JMJnJzdkQPdkhcuwcbJpjB8>

Jun. 2020 Infographic: Donations in Open Source, Infographic by C. Overney, <https://cmustrudel.github.io/announcement/donations>

Jun. 2020 Engineering AI-Enabled Systems with Interdisciplinary Teams | SEMLA'20, Talk, <https://www.youtube.com/watch?v=CHMJB1JyfZk>

Jun. 2020 A Software Testing View on Machine Learning Model Quality, Blog post, <https://ckaestne.medium.com/a-software-testing-view-on-machine-learning-model-quality>

Jun. 2020 Teaching Software Engineering for AI-Enabled Systems | ICSE SEET'20, Talk, <https://www.youtube.com/watch?v=Nk0Sy6Sx3IY>

Apr. 2020 Software Engineering for ML-Enabled Systems | Code & Supply, Talk, [https://www.youtube.com/watch?v=9\\_xeTHaTcCQ](https://www.youtube.com/watch?v=9_xeTHaTcCQ)

Mar. 2020 Machine Learning is Requirements Engineering, Blog post, <https://medium.com/ckaestne/machine-learning-is-requirements-engineering-8957aee55ef4>

Jan. 2020 Software Engineering for AI/ML – An Annotated Bibliography, Website, <https://github.com/ckaestne/seaibib>

May. 2019 Feature Flags vs Configuration Options — Same Difference?, Blog post, <https://ckaestne.medium.com/feature-flags-vs-configuration-options-same-difference-10a2a2a2a2>

Mar. 2018 Infographic: npm badges, Infographic with A. Trockman, B. Vasilescu, <https://cmustrudel.github.io/announcement/badges>

May. 2017 How to Break an API: How Community Values Influence Practices | JS-Conf EU 2017, Talk, <https://www.youtube.com/watch?v=xJHeHCZtmAU>

May. 2017 How to break an API?, Website with C. Bogart, <http://breakingapis.org/>

Mar. 2015 On Paper Titles (Bad Ideas, Rejected Ideas, and Final Titles), Blog post, <https://ckaestne.medium.com/on-paper-titles-bad-ideas-rejected-ideas-and-final-titles-10a2a2a2a2>

Jul. 2014 Teaching Software Construction with Travis CI, Blog post, <https://ckaestne.medium.com/teaching-software-construction-with-travis-ci-3d3d5428d10a>

## Publications

total: 263; h-index: 61

Key publications are highlighted with ★. PDF versions available online: <http://www.cs.cmu.edu/~ckaestne/>.

### Books

- ★ 1. Christian Kästner. Machine Learning in Production: From Models to Products. Cambridge, MA: The MIT Press, April 2025.
- ★ 2. Sven Apel, Don Batory, Christian Kästner, and Gunter Saake. Feature-Oriented Software Product Lines: Concepts and Implementation. Berlin/Heidelberg: Springer-Verlag, 2013. 308 pages, ISBN 978-3-642-37520-0.

### Refereed Journal Articles

- ★ 3. Hao He, Bogdan Vasilescu, and Christian Kästner. Pinning Is Futile: You Need More Than Local Dependency Versioning to Defend Against Supply Chain Attacks. *Proceedings of the ACM on Software Engineering (FSE)*, 2(FSE):266–289, June 2025. **Distinguished Paper Award**.
- ★ 4. Christian Kästner, Eunsuk Kang, and Sven Apel. Feature Interactions on Steroids: On the Composition of ML Models. *IEEE Software (IEEE-Sw)*, 39(3):120–124, May 2022.
- ★ 5. Christopher Bogart, Christian Kästner, James Herbsleb, and Ferdinand Thung. When and how to make breaking changes: Policies and practices in 18 open source software ecosystems. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 30(4):Article No.: 42, pp 1–56, October 2021.
- 6. Miguel Velez, Pooyan Jamshidi, Florian Sattler, Norbert Siegmund, Sven Apel, and Christian Kästner. ConfigCrusher: Towards White-Box Performance Analysis for Configurable Systems. *Automated Software Engineering – An International Journal (AUSE)*, 27:265–300, 2020.
- 7. Sergiy S. Kolesnikov, Norbert Siegmund, Christian Kästner, and Sven Apel. On the Relation of Control-flow and Performance Feature Interactions: A Case Study. *Empirical Software Engineering (EMSE)*, (24):2410–2437, 2019.

8. Jonathan Aldrich, Joydeep Biswas, Javier Cámara, David Garlan, Arjun Guha, Jarrett Holtz, Pooyan Jamshidi, Christian Kästner, Claire Le Goues, Anahita Mohseni-Kabir, Ivan Ruchkin, Selva Samuel, Bradley Schmerl, Christopher Timperley, Manuela Veloso, and Ian Voysey. Model-based Adaptation for Robotics Software. *IEEE Software (IEEE-Sw)*, 36(2):83–90, 2019.
9. 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.
10. Hung Viet Nguyen, Hung Dang Phan, Christian Kästner, and Tien N. Nguyen. Exploring Output-Based Coverage for Testing PHP Web Applications. *Automated Software Engineering – An International Journal (AUSE)*, 26(1):59–85, March 2019.
- ★ 11. 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):Article No. 18, 2018.
- ★ 12. Chu-Pan Wong, Jens Meinicke, Lukas Lazarek, and Christian Kästner. Faster Variational Execution with Transparent Bytecode Transformation. *Proceedings of the ACM on Programming Languages, Issue OOPSLA (OOPSLA)*, 2:117:1–117:30, 2018.
13. 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 2018.
14. Sergiy S. Kolesnikov, Norbert Siegmund, Christian Kästner, Alexander Grebhahn, and Sven Apel. Tradeoffs in Modeling Performance of Highly-Configurable Software Systems. *International Journal on Software and Systems Modeling (SOSYM)*, 18(3):2265–2283, 2019.
15. Olaf Leßenich, Janet Siegmund, Sven Apel, Christian Kästner, and Claus Hunsen. Indicators for Merge Conflicts in the Wild: Survey and Empirical Study. *Automated Software Engineering – An International Journal (AUSE)*, 25(2):279–313, 2018.
- ★ 16. Max Lillack, Christian Kästner, and Eric Bodden. Tracking Load-time Configuration Options. *IEEE Transactions on Software Engineering (TSE)*, 44(12):1269–1291, 2018.
17. Raman Goyal, Gabriel Ferreira, Christian Kästner, and James Herbsleb. Identifying Unusual Commits on GitHub. *Journal of Software: Evolution and Process (JSEP)*, 30(1):, January 2018.
- ★ 18. Flávio Medeiros, Márcio 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.
19. James Herbsleb, Christian Kästner, and Christopher Bogart. Intelligently Transparent Software Ecosystems. *IEEE Software (IEEE-Sw)*, 33(1):89–96, 2015.
- ★ 20. Sarah Nadi, Thorsten Berger, Christian Kästner, and Krzysztof Czarnecki. Where do Configuration Constraints Stem From? An Extraction Approach and an Empirical Study. *IEEE Transactions on Software Engineering (TSE)*, 41(8):820–841, 2015.
21. Claus Hunsen, Janet Siegmund, Olaf Leßenich, Sven Apel, Bo Zhang, Christian Kästner, and Martin Becker. Preprocessor-Based Variability in

Open-Source and Industrial Software Systems: An Empirical Study. *Empirical Software Engineering (EMSE), Special Issue on Empirical Evidence on Software Product Line Engineering*, 1–34, 2015.

- ★ 22. 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 (CSUR)*, 47(1):Article 6, June 2014.
- 23. Janet Feigenspan, Christian Kästner, Jörg Liebig, Sven Apel, and Stefan Hanenberg. Measuring and Modeling Programming Experience. *Empirical Software Engineering (EMSE)*, 19(5):1299–1334, October 2014.
- ★ 24. Christian Kästner, Alexander Dreiling, and Klaus Ostermann. Variability Mining: Consistent Semiautomatic Detection of Product-Line Features. *IEEE Transactions on Software Engineering (TSE)*, 40(1):67–82, 2014.
- 25. Sven Apel, Alexander von Rhein, Thomas Thüm, and Christian Kästner. Feature-Interaction Detection based on Feature-Based Specifications. *Computer Networks (COMNET), Special Issue on Feature Interaction*, 57(12):2399–2409, August 2013.
- 26. Norbert Siegmund, Marko Rosenmüller, Christian Kästner, Paolo G. Giarrusso, Sven Apel, and Sergiy S. Kolesnikov. Scalable Prediction of Non-functional Properties in Software Product Lines: Footprint and Memory Consumption. *Information and Software Technology (IST), Special Issue on Software Reuse and Product Lines*, 55(3):491–507, March 2013.
- 27. Thomas Thüm, Christian Kästner, Fabian Benduhn, Jens Meinicke, Gunter Saake, and Thomas Leich. FeatureIDE: An Extensible Framework for Feature-Oriented Software Development. *Science of Computer Programming (SCP), Special Issue on Experimental Software and Toolkits*, 79:70–85, 2014.
- ★ 28. 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, 2012.
- 29. Janet Feigenspan, Michael Schulze, Maria Papendieck, Christian Kästner, Raimund Dachselt, Veit Köppen, Mathias Frisch, and Gunter Saake. Supporting Program Comprehension in Large Preprocessor-Based Software Product Lines. *IET Software*, 6(6):488–501, December 2012.
- ★ 30. 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, 2013.
- 31. Mario Pukall, Christian Kästner, Walter Cazzola, Sebastian Götz, Alexander Grebhahn, Reimar Schröter, and Gunter Saake. JavAdaptor: Flexible Runtime Updates of Java Applications. *Software: Practice and Experience (SPE)*, 43(2):153–185, February 2013.
- 32. Norbert Siegmund, Marko Rosenmüller, Martin Kuhlemann, Christian Kästner, Sven Apel, and Gunter Saake. SPL Conqueror: Toward Optimization of Non-functional Properties in Software Product Lines. *Software Quality Journal (SQJ), Special Issue on Quality Engineering for Software Product Lines*, 20(3):487–517, 2011.
- ★ 33. 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):Article 14, 2012.
- 34. Sven Apel, Sergiy S. Kolesnikov, Jörg Liebig, Christian Kästner, Martin Kuhlemann, and Thomas Leich. Access Control in Feature-Oriented

Programming. *Science of Computer Programming (SCP), Special Issue on Feature-Oriented Software Development*, 77(3):174–187, March 2012.

35. Sven Apel, Christian Lengauer, Bernhard Möller, and Christian Kästner. An Algebraic Foundation for Automatic Feature-Based Program Synthesis. *Science of Computer Programming (SCP)*, 75(11):1022–1047, November 2010.
36. Sven Apel, Christian Kästner, Armin Größlinger, and Christian Lengauer. Type Safety for Feature-Oriented Product Lines. *Automated Software Engineering – An International Journal (AUSE)*, 17(3):251–300, 2010.
37. 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):Article 1; 43 pages, June 2010.
38. Sven Apel, Christian Kästner, Martin Kuhlemann, and Thomas Leich. Pointcuts, Advice, Refinements, and Collaborations: Similarities, Differences, and Synergies. *Innovations in Systems and Software Engineering – A NASA Journal (ISSE)*, 3(3-4):281–289, December 2007.
39. Sven Apel, Christian Kästner, Thomas Leich, and Gunter Saake. Aspect Refinement - Unifying AOP and Stepwise Refinement. *Journal of Object Technology (JOT), Special Issue on TOOLS EUROPE 2007*, 6(9):13–33, October 2007.
40. Sven Apel, Christian Kästner, Martin Kuhlemann, and Thomas Leich. Modularität von Softwarebausteinen: Aspekte versus Merkmale. *iX Magazin für Professionelle Informationstechnik (iX)*, (10):116–122, October 2006.

### Refereed Conference Papers

- ★ 41. Nadia Nahar, Chenyang Yang, Yanxin Chen, Wesley Hanwen Deng, Ken Holstein, Motahhare Eslami, and Christian Kästner. "I Don't Think RAI Applies to My Model" – Engaging Non-champions with Sticky Stories for Responsible AI Work. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)*, April 2026.
- 42. Aarya Doshi, Yining Hong, Congying Xu, Eunsuk Kang, Alexandros Kapravelos, and Christian Kästner. Towards Verifiably Safe Tool Use for LLM Agents. In *Proceedings of the Proc. International Conference on Software Engineering – New Ideas Track (ICSE-NIER)*, April 2026.
- ★ 43. Hao He, Haoqin Yang, Philipp Burckhardt, Alexandros Kapravelos, Bogdan Vasilescu, and Christian Kästner. Six Million (Suspected) Fake Stars on GitHub: A Growing Spiral of Popularity Contests, Spams, and Malware. In *Proceedings of the 48th International Conference on Software Engineering (ICSE)*, April 2026.
- ★ 44. Courtney Miller, Hao He, Weigen Chen, Elizabeth Lin, Chenyang Yang, Bogdan Vasilescu, and Christian Kästner. Designing Abandabot: When Does Open Source Dependency Abandonment Matter? In *Proceedings of the 48th International Conference on Software Engineering (ICSE)*, April 2026.
- 45. Yining Hong, Christopher Timperley, and Christian Kästner. From Hazard Identification to Control Design: Proactive and AI-Supported Safety Engineering for ML-powered Systems. In *Proceedings of the International Conference on AI Engineering - Software Engineering for AI (CAIN)*, pages 113–118, April 2025.
- 46. Chenyang Yang, Tesi Xiao, Michael Shavlovsky, Christian Kästner, and Tongshuang Wu. Orbit: A Framework for Designing and Evaluating Multi-objective Rankers. In *Proceedings of the Proc. International Conference on Intelligent User Interfaces (IUI)*, pages 1093–1106, March 2025.

- ★ 47. Nadia Nahar, Christian Kästner, Jenna Butler, Chris Parnin, Thomas Zimmermann, and Christian Bird. Beyond the Comfort Zone: Emerging Solutions to Overcome Challenges in Integrating LLMs into Software Products. In *Proceedings of the Proc. International Conference on Software Engineering – Software Engineering in Practice Track (ICSE-SEIP)*, pages 516–527, April 2025.
- 48. Yining She, Sumon Biswas, Christian Kästner, and Eunsuk Kang. FairSense: Long-Term Fairness Analysis of ML-Enabled Systems. In *Proceedings of the 47th International Conference on Software Engineering (ICSE)*, pages 782–794, April 2025.
- 49. Giacomo Benedetti, Oreofe Solarin, Courtney Miller, Greg Tystahl, William Enck, Christian Kästner, Alexandros Kapravelos, Alessio Merlo, and Luca Verderame. An Empirical Study on Reproducible Packaging in Open-Source Ecosystems. In *Proceedings of the 47th International Conference on Software Engineering (ICSE)*, pages 1052–1063, April 2025.
- ★ 50. Chenyang Yang, Yining Hong, Grace Lewis, Tongshuang Wu, and Christian Kästner. What Is Wrong with My Model? Identifying Systematic Problems with Semantic Data Slicing. In *Proceedings of the 39th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 306–318, Los Alamitos, CA: IEEE Computer Society, November 2024. Acceptance rate: 26 % (155/587).
- 51. Menon Alka, Zahra Abba Omar, Nadia Nahar, Xenophon Papademetris, Lynn Fiellin, and Christian Kästner. Lessons from Clinical Communications for AI Systems. In *Proceedings of the AAAI Conference on AI, Ethics, and Society (AIES)*, pages 958–970, October 2024.
- ★ 52. Nadia Nahar, Haoran Zhang, Grace Lewis, Shurui Zhou, and Christian Kästner. The Product Beyond the Model – An Empirical Study of Repositories of Open-Source ML Products. In *Proceedings of the 47th International Conference on Software Engineering (ICSE)*, pages 1540–1552, April 2025.
- ★ 53. Courtney Miller, Mahmoud Jahanshahi, Audris Mockus, Bogdan Vasilescu, and Christian Kästner. Understanding the Response to Open-Source Dependency Abandonment in the npm Ecosystem. In *Proceedings of the 47th International Conference on Software Engineering (ICSE)*, pages 2355–2367, April 2025. **Distinguished Paper Award**.
- ★ 54. Nadia Nahar, Jenny Rowlett, Matthew Bray, Zahra Abba Omar, Xenophon Papademetris, Menon Alka, and Christian Kästner. Regulating Explainability in Machine Learning Applications – Observations from a Policy Design Experiment. In *Proceedings of the Conference on Fairness, Accountability, and Transparency (FAccT)*, pages 2101–2112, June 2024.
- 55. Wanqin Ma, Chenyang Yang, and Christian Kästner. (Why) Is My Prompt Getting Worse? Rethinking Regression Testing for Evolving LLM APIs. In *Proceedings of the International Conference on AI Engineering - Software Engineering for AI (CAIN)*, pages 166–171, April 2024.
- 56. Lina Boughton, Courtney Miller, Yasemin Acar, Dominik Wermke, and Christian Kästner. Decomposing and Measuring Trust in Open-Source Software Supply Chains. In *Proceedings of the Proc. International Conference on Software Engineering – New Ideas Track (ICSE-NIER)*, pages 57–61, April 2024.
- ★ 57. Chenyang Yang, Rishabh Rustogi, Rachel A Brower-Sinning, Grace Lewis, Christian Kästner, and Tongshuang Wu. Beyond Testers' Biases: Guiding Model Testing with Knowledge Bases using LLMs. In *Proceedings of the Conference on Empirical Methods in Natural Language Processing – Findings (EMNLP)*, pages 13504–13519, December 2023.
- ★ 58. Courtney Miller, Christian Kästner, and Bogdan Vasilescu. "We Feel Like

We're Winging It: " A Study on Navigating Open-Source Dependency Abandonment. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 1281–1293, New York, NY: ACM Press, December 2023.

- ★ 59. Nadia Nahar, Haoran Zhang, Grace Lewis, Shurui Zhou, and Christian Kästner. A Meta-Summary of Challenges in Building Products with ML Components – Collecting Experiences from 4758+ Practitioners. In *Proceedings of the International Conference on AI Engineering - Software Engineering for AI (CAIN)*, pages 171–183, May 2023.
- ★ 60. Avinash Bhat, Austin Coursey, Grace Hu, Sixian Li, Nadia Nahar, Shurui Zhou, Christian Kästner, and Jin L.C. Guo. Aspirations and Practice of ML Model Documentation: Moving the Needle with Nudging and Traceability. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI)*, Article No.: 749, April 2023.
- 61. Katherine R. Maffey, Kyle Dotterrer, Jennifer Niemann, Iain Cruickshank, Grace Lewis, and Christian Kästner. MLTEing Models: Negotiating, Evaluating, and Documenting Model and System Qualities. In *Proceedings of the Proc. International Conference on Software Engineering – New Ideas Track (ICSE-NIER)*, pages 31–36, May 2023.
- ★ 62. Chenyang Yang, Rachel A Brower-Sinning, Grace Lewis, and Christian Kästner. Data Leakage in Notebooks: Static Detection and Better Processes. In *Proceedings of the 37th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, Article No.: 30, New York, NY: ACM Press, October 2022. Acceptance rate: 22 % (116/527).
- 63. Yuan Jiang, Christian Kästner, and Shurui Zhou. Elevating Jupyter Notebook Maintenance Tooling by Identifying and Extracting Notebook Structures. In *Proceedings of the 38th International Conference on Software Maintenance and Evolution (ICSME)*, pages 399–403, October 2022. Acceptance rate: 44 % (17/39).
- 64. Kimberly Truong, Courtney Miller, Bogdan Vasilescu, and Christian Kästner. The Unsolvable Problem or the Unheard Answer? A Dataset of 24,669 Open-Source Software Conference Talks. In *Proceedings of the 20th International Conference on Mining Software Repositories (MSR)*, pages 348–352, New York, NY: ACM Press, May 2022.
- 65. Huilian Sophie Qiu, Bogdan Vasilescu, Christian Kästner, Carolyn Egelman, Ciera Jaspan, and Emerson Murphy-Hill. Detecting Interpersonal Conflict in Issues and Code Review: Cross Pollinating Open- and Closed-Source Approaches. In *Proceedings of the Proc. International Conference on Software Engineering – Software Engineering in Society Track (ICSE-SEIS)*, pages 41–55, New York, NY: ACM Press, May 2022. Acceptance rate: 44 % (17/39).
- ★ 66. Nadia Nahar, Shurui Zhou, Grace Lewis, and Christian Kästner. Collaboration Challenges in Building ML-Enabled Systems: Communication, Documentation, Engineering, and Process. In *Proceedings of the 44th International Conference on Software Engineering (ICSE)*, pages 413–425, New York, NY: ACM Press, May 2022. Acceptance rate: 26 % (197/751). **Distinguished Paper Award**.
- ★ 67. Courtney Miller, Sophie Cohen, Daniel Klug, Bogdan Vasilescu, and Christian Kästner. "Did You Miss My Comment or What?" Understanding Toxicity in Open Source Discussions. In *Proceedings of the 44th International Conference on Software Engineering (ICSE)*, pages 710–722, New York, NY: ACM Press, May 2022. Acceptance rate: 26 % (197/751). **Distinguished Paper Award**.
- ★ 68. Miguel Velez, Pooyan Jamshidi, Norbert Siegmund, Sven Apel, and Chris-

tian Kästner. On Debugging the Performance of Configurable Software Systems: Developer Needs and Tailored Tool Support. In *Proceedings of the 44th International Conference on Software Engineering (ICSE)*, pages 1571–1583, New York, NY: ACM Press, May 2022. Acceptance rate: 26 % (197/751).

★ 69. Chenyang Yang, Shurui Zhou, Jin L.C. Guo, and Christian Kästner. Subtle Bugs Everywhere: Generating Documentation for Data Wrangling Code. In *Proceedings of the 36th IEEE / ACM International Conference on Automated Software Engineering (ASE)*, pages 304–316, Los Alamitos, CA: IEEE Computer Society, November 2021. Acceptance rate: 27 % (120/440).

★ 70. Chu-Pan Wong, Priscila Santesteban, Christian Kästner, and Claire Le Goues. VarFix: Balancing Edit Expressiveness and Search Effectiveness in Automated Program Repair. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 354–366, New York, NY: ACM Press, August 2021. Acceptance rate: 24 % (97/396).

71. Bo Shen, Wei Zhang, Christian Kästner, Haiyan Zhao, Zhao Wei, Guangtai Liang, and Zhi Jin. SmartCommit: A Graph-based Interactive Assistant for Activity-Oriented Commits. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 379–390, New York, NY: ACM Press, August 2021. Acceptance rate: 24 % (97/396).

★ 72. 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 43rd International Conference on Software Engineering (ICSE)*, pages 1072–1084, Los Alamitos, CA: IEEE Computer Society, May 2021. Acceptance rate: 23 % (138/602).

★ 73. Gabriel Ferreira, Limin Jia, Joshua Sunshine, and Christian Kästner. Containing Malicious Package Updates in npm with a Lightweight Permission System. In *Proceedings of the 43rd International Conference on Software Engineering (ICSE)*, pages 1334–1346, Los Alamitos, CA: IEEE Computer Society, May 2021. Acceptance rate: 23 % (138/602).

74. João P. Diniz, Chu-Pan Wong, Christian Kästner, and Eduardo Figueiredo. Dissecting Strongly Subsuming Second-Order Mutants. In *Proceedings of the International Conference on Software Testing, Verification and Validation (ICST)*, pages 171–181, Los Alamitos, CA: IEEE Computer Society, April 2021.

75. Larissa Rocha Soares, Ivan Machado, Eduardo Santana de Almeida, Christian Kästner, and Sarah Nadi. A Semi-Automated Iterative Process for Detecting Feature Interactions. In *Proceedings of the 34th Brazilian Symposium on Software Engineering (SBES)*, pages 778–787, October 2020.

76. Flávio Medeiros, Márcio Ribeiro, Rohit Gheyi, Larissa Braz, Christian Kästner, Sven Apel, and Kleber Santos. An Empirical Study on Configuration-Related Code Weaknesses. In *Proceedings of the 34th Brazilian Symposium on Software Engineering (SBES)*, pages 193–202, October 2020.

77. Hemank Lamba, Asher Trockman, Daniel Armanios, Christian Kästner, Heather Miller, and Bogdan Vasilescu. Heard it Through the Gitvine: An Empirical Study of Tool Diffusion Across the npm Ecosystem. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 505–517, New York, NY: ACM Press, November 2020. Acceptance rate: 28 % (101/360).

★ 78. Chu-Pan Wong, Jens Meinicke, Leo Chen, João P. Diniz, Christian Käst-

ner, and Eduardo Figueiredo. Efficiently Finding Higher-Order Mutants. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 1165–1177, New York, NY: ACM Press, November 2020. Acceptance rate: 28 % (101/360).

- 79. Jens Meinicke, Juan David Hoyos Rentería, Christian Kästner, and Bogdan Vasilescu. Capture the Feature Flag: Detecting Feature Flags in Open-Source. In *Proceedings of the 18th International Conference on Mining Software Repositories (MSR)*, pages 169–173, New York, NY: ACM Press, May 2020. Acceptance rate: 26 % (45/171).
- 80. Naveen Raman, Minxuan Cao, Yulia Tsvetkov, Christian Kästner, and Bogdan Vasilescu. Stress and Burnout in Open Source: Toward Finding, Understanding, and Mitigating Unhealthy Interactions. In *Proceedings of the Proc. International Conference on Software Engineering – New Ideas Track (ICSE-NIER)*, pages 57–60, May 2020.
- ★ 81. Jens Meinicke, Chu-Pan Wong, Bogdan Vasilescu, and Christian Kästner. Exploring Differences and Commonalities between Feature Flags and Configuration Options. In *Proceedings of the Proc. International Conference on Software Engineering – Software Engineering in Practice Track (ICSE-SEIP)*, pages 233–242, May 2020.
- ★ 82. Cassandra Overney, Jens Meinicke, Christian Kästner, and Bogdan Vasilescu. How to Not Get Rich: An Empirical Study of Donations in Open Source. In *Proceedings of the 42nd International Conference on Software Engineering (ICSE)*, pages 1209–1221, New York, NY: ACM Press, May 2020. Acceptance rate: 21 % (129/617).
- ★ 83. Shurui Zhou, Bogdan Vasilescu, and Christian Kästner. How Has Forking Changed in the Last 20 Years? A Study of Hard Forks on GitHub. In *Proceedings of the 42nd International Conference on Software Engineering (ICSE)*, pages 445–456, New York, NY: ACM Press, May 2020. Acceptance rate: 21 % (129/617).
- ★ 84. Christian Kästner, and Eunsuk Kang. Teaching Software Engineering for AI-Enabled Systems. In *Proceedings of the Proc. International Conference on Software Engineering – Software Engineering Education and Training Track (ICSE-SEET)*, pages 45–48, New York, NY: ACM Press, May 2020. Acceptance rate: 23 % (21/90).
- 85. Markos Viggiano, Johnatan Oliveira, Eduardo Figueiredo, Pooyan Jamshidi, and Christian Kästner. How Do Code Changes Evolve in Different Platforms? A Mining-based Investigation. In *Proceedings of the 35th International Conference on Software Maintenance and Evolution (ICSME)*, pages 218–222, September 2019.
- 86. Shurui Zhou, Bogdan Vasilescu, and Christian Kästner. What the Fork: A Study of Inefficient and Efficient Forking Practices in Social Coding. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 350–361, New York, NY: ACM Press, August 2019. Acceptance rate: 24 % (74/303).
- 87. David Widder, Michael Hilton, Christian Kästner, and Bogdan Vasilescu. Integrating and Testing the Literature: A Conceptual Replication of Continuous Integration Pain Points. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 647–658, New York, NY: ACM Press, August 2019. Acceptance rate: 24 % (74/303).
- 88. Pooyan Jamshidi, Javier Cámara, Bradley Schmerl, Christian Kästner, and David Garlan. Machine Learning Meets Quantitative Planning: Enabling Self-Adaptation in Autonomous Robots. In *Proceedings of the 14th*

89. Markos Viggiano, Johnatan Oliveira, Eduardo Figueiredo, Pooyan Jamshidi, and Christian Kästner. Understanding Similarities and Differences in Software Development Practices Across Domains. In *Proceedings of the 14th ACM/IEEE International Conference on Global Software Engineering (ICGSE)*, pages 74–84, May 2019.
90. Kalil Garrett, Gabriel Ferreira, Christian Kästner, Joshua Sunshine, and Limin Jia. Detecting Suspicious Package Updates. In *Proceedings of the International Conference on Software Engineering – New Ideas Track (ICSE-NIER)*, pages 13–16, May 2019.
91. Courtney Miller, David Widder, Christian Kästner, and Bogdan Vasilescu. Why Do People Give Up FLOSSing? A Study of Contributor Disengagement in Open Source. In *Proceedings of the 15th International Conference on Open Source Systems (OSS)*, pages 116–129, May 2019.
92. Luyao Ren, Shurui Zhou, Christian Kästner, and Andrzej Wąsowski. Identifying Redundancies in Fork-based Development. In *Proceedings of the 27th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*, pages 230–241, 2019.
93. Larissa Rocha Soares, Jens Meinicke, Sarah Nadi, Christian Kästner, and Eduardo Santana de Almeida. Exploring Feature Interactions Without Specifications: A Controlled Experiment. In *Proceedings of the 17th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 41–52, New York, NY: ACM Press, 2018.
94. Chu-Pan Wong, Jens Meinicke, and Christian Kästner. Beyond Testing Configurable Systems: Applying Variational Execution to Automatic Program Repair and Higher Order Mutation Testing. In *Proceedings of the 26th International Symposium on Foundations of Software Engineering – New Ideas Track (FSE-NIER)*, pages 749–753, November 2018.
95. Pooyan Jamshidi, Miguel Velez, Christian Kästner, and Norbert Siegmund. Learning to Sample: Exploiting Similarities Across Environments to Learn Performance Models for Configurable Systems. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 71–82, New York, NY: ACM Press, November 2018. Acceptance rate: 21% (61/289).
96. Allan Mori, Gustavo Vale, Markos Viggiano, Johnatan Oliveira, Eduardo Figueiredo, Elder Cirilo, Pooyan Jamshidi, and Christian Kästner. Evaluating Domain-Specific Metric Thresholds: An Empirical Study. In *Proceedings of the International Conference on Technical Debt (TechDebt)*, pages 41–50, New York, NY: ACM Press, May 2018.
97. David Widder, Michael Hilton, Christian Kästner, and Bogdan Vasilescu. I'm Leaving You, Travis: A Continuous Integration Breakup Story. In *Proceedings of the 16th International Conference on Mining Software Repositories (MSR)*, pages 165–169, New York, NY: ACM Press, May 2018. Acceptance rate: 33% (48/145).
98. Asher Trockman, Keenen Cates, Mark Mozina, Tuan Nguyen, Christian Kästner, and Bogdan Vasilescu. "Automatically Assessing Code Understandability" Reanalyzed: Combined Metrics Matter. In *Proceedings of the 16th International Conference on Mining Software Repositories (MSR)*, pages 314–318, New York, NY: ACM Press, May 2018. Acceptance rate: 33% (48/145).
- ★ 99. Asher Trockman, Shurui Zhou, Christian Kästner, and Bogdan Vasilescu. Adding Sparkle to Social Coding: An Empirical Study of Repository Badges in the npm Ecosystem. In *Proceedings of the 40th International Conference on Software Engineering (ICSE)*, pages 511–522, New York, NY: ACM Press, May 2018. Acceptance rate: 21% (105/502).

- ★100. Shurui Zhou, Stefan Stănciulescu, Olaf Leßenich, Yingfei Xiong, Andrzej Wąsowski, and Christian Kästner. Identifying Features in Forks. In *Proceedings of the 40th International Conference on Software Engineering (ICSE)*, pages 105–116, New York, NY: ACM Press, May 2018. Acceptance rate: 21 % (105/502).
- 101. Jafar Al-Kofahi, Suresh Kothari, and Christian Kästner. Four Languages and Lots of Macros: Analyzing Autotools Build Systems. In *Proceedings of the 16th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 176–186, New York, NY: ACM Press, October 2017. Acceptance rate: 32 % (18/56).
- ★102. Pooyan Jamshidi, Norbert Siegmund, Miguel Velez, Christian Kästner, Akshay Patel, and Yuvraj Agarwal. Transfer Learning for Performance Modeling of Configurable Systems: An Exploratory Analysis. In *Proceedings of the 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 497–508, Los Alamitos, CA: IEEE Computer Society, November 2017. Acceptance rate: 23 % (88/388).
- 103. 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 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 543–553, Los Alamitos, CA: IEEE Computer Society, November 2017. Acceptance rate: 23 % (88/388).
- 104. 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 ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 140–150, New York, NY: ACM Press, September 2017.
- 105. Pooyan Jamshidi, Miguel Velez, Christian Kästner, Norbert Siegmund, and Prasad Kawthekar. Transfer Learning for Improving Model Predictions in Highly Configurable Software. In *Proceedings of the 12th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)*, pages 31–41, Los Alamitos, CA: IEEE Computer Society, May 2017. Acceptance rate: 23 % (14/61).
- ★106. Jens Meinicke, Chu-Pan Wong, Christian Kästner, Thomas Thüm, and Gunter Saake. On Essential Configuration Complexity: Measuring Interactions In Highly-Configurable Systems. In *Proceedings of the 31st IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 483–494, New York, NY: ACM Press, September 2016. Acceptance rate: 19 % (57/298).
- ★107. Christopher Bogart, Christian Kästner, James Herbsleb, and Ferdinand Thung. How to Break an API: Cost Negotiation and Community Values in Three Software Ecosystems. In *Proceedings of the ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE)*, pages 109–120, New York, NY: ACM Press, November 2016. Acceptance rate: 27 % (74/273).
- 108. Gabriel Ferreira, Momin Malik, Christian Kästner, Juergen Pfeffer, and Sven Apel. Do #ifdefs Influence the Occurrence of Vulnerabilities? An Empirical Study of the Linux Kernel. In *Proceedings of the 20th International Software Product Line Conference (SPLC)*, pages 65–744, New York, NY: ACM Press, September 2016. Acceptance rate: 39 % (17/44).
- 109. Waqar Ahmad, Christian Kästner, Joshua Sunshine, and Jonathan Aldrich. Inter-app Communication in Android: Developer Challenges. In *Proceedings of the 14th International Conference on Mining Software Repositories (MSR)*, pages 177–188, New York, NY: ACM Press, May 2016. Acceptance rate: 27 % (36/133).

- ★110. Flávio Medeiros, Christian Kästner, Márcio Ribeiro, Rohit Gheyi, and Sven Apel. A Comparison of 10 Sampling Algorithms for Configurable Systems. In *Proceedings of the 38th International Conference on Software Engineering (ICSE)*, pages 643–654, New York, NY: ACM Press, May 2016. Acceptance rate: 19 % (101/530).
- 111. Hung Viet Nguyen, My Huu Nguyen, Son Cuu Dang, Christian Kästner, and Tien N. Nguyen. Detecting Semantic Merge Conflicts With Variability-Aware Execution. In *Proceedings of the International Symposium on Foundations of Software Engineering – New Ideas Track (ESEC/FSE-NIER)*, pages 926–929, New York, NY: ACM Press, August 2015.
- ★112. Norbert Siegmund, Alexander Grebhahn, Christian Kästner, and Sven Apel. Performance-Influence Models for Highly Configurable Systems. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 284–294, New York, NY: ACM Press, August 2015. Acceptance rate: 25 % (74/291).
- ★113. Hung Viet Nguyen, Christian Kästner, and Tien N. Nguyen. Cross-language Program Slicing for Dynamic Web Applications. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 369–380, New York, NY: ACM Press, August 2015. Acceptance rate: 25 % (74/291).
- ★114. Flávio Medeiros, Christian Kästner, Márcio Ribeiro, Sarah Nadi, and Rohit Gheyi. The Love/Hate Relationship with The C Preprocessor: An Interview Study. In *Proceedings of the 29th European Conference on Object-Oriented Programming (ECOOP)*, volume 37 of *Leibniz International Proceedings in Informatics*, pages 495–518, Dagstuhl, Germany: Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2015.
- 115. Hung Viet Nguyen, Christian Kästner, and Tien N. Nguyen. Varis: IDE Support for Embedded Client Code in PHP Web Applications. In *Proceedings of the 37th International Conference on Software Engineering (Volume 2) (ICSE)*, pages 693–696, May 2015. Formal Demonstration paper, **Best Demonstration Award**.
- 116. Max Lillack, Christian Kästner, and Eric Bodden. Tracking Load-time Configuration Options. In *Proceedings of the 29th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 445–456, Los Alamitos, CA: IEEE Computer Society, September 2014. Acceptance rate: 20 % (55/276).
- ★117. Hung Viet Nguyen, Christian Kästner, and Tien N. Nguyen. Building Call Graphs for Embedded Client-Side Code in Dynamic Web Applications. In *Proceedings of the ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE)*, pages 518–529, New York, NY: ACM Press, November 2014. Acceptance rate: 22 % (61/273).
- ★118. Eric Walkingshaw, Christian Kästner, Martin Erwig, Sven Apel, and Eric Bodden. Variational Data Structures: Exploring Tradeoffs in Computing with Variability. In *Proceedings of the 13rd SIGPLAN Symposium on New Ideas in Programming and Reflections on Software at SPLASH (Onward!)*, pages 213–226, New York, NY: ACM Press, 2014.
- ★119. Janet Siegmund, Christian Kästner, Sven Apel, Chris Parnin, Anja Bethmann, Thomas Leich, Gunter Saake, and André Brechmann. Understanding Understanding Source Code with Functional Magnetic Resonance Imaging. In *Proceedings of the 36th International Conference on Software Engineering (ICSE)*, pages 378–389, June 2014. Acceptance rate: 20 % (99/495).
- ★120. Hung Viet Nguyen, Christian Kästner, and Tien N. Nguyen. Exploring

Variability-Aware Execution for Testing Plugin-Based Web Applications. In *Proceedings of the 36th International Conference on Software Engineering (ICSE)*, pages 907–918, June 2014. Acceptance rate: 20 % (99/495).

- ★121. Sarah Nadi, Thorsten Berger, Christian Kästner, and Krzysztof Czarnecki. Mining Configuration Constraints: Static Analyses and Empirical Results. In *Proceedings of the 36th International Conference on Software Engineering (ICSE)*, pages 140–151, June 2014. Acceptance rate: 20 % (99/495).
- ★122. Márcio Ribeiro, Paulo Borba, and Christian Kästner. Feature Maintenance with Emergent Interfaces. In *Proceedings of the 36th International Conference on Software Engineering (ICSE)*, pages 989–1000, June 2014. Acceptance rate: 20 % (99/495).
- 123. Jörg Liebig, Alexander von Rhein, Christian Kästner, Sven Apel, Jens Dörre, and Christian Lengauer. Scalable Analysis of Variable Software. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 81–91, New York, NY: ACM Press, August 2013. Acceptance rate: 20 % (51/251).
- 124. Janet Siegmund, Christian Kästner, Sven Apel, André Brechmann, and Gunter Saake. Experience from Measuring Program Comprehension – Toward a General Framework. In *Proceedings of the Software Engineering 2013 – Fachtagung des GI-Fachbereichs Softwaretechnik (SE)*, volume P-213 of *Lecture Notes in Informatics*, pages 239–257, Bonn, Germany: Gesellschaft für Informatik (GI), February 2013.
- 125. Paolo G. Giarrusso, Klaus Ostermann, Michael Eichberg, Ralf Mitschke, Tillmann Rendel, and Christian Kästner. Reify Your Collection Queries for Modularity and Speed! In *Proceedings of the 12th ACM International Conference on Aspect-Oriented Software Development (AOSD)*, pages 1–12, New York, NY: ACM Press, March 2013. Acceptance rate: 24 % (17/72).
- 126. Janet Siegmund, André Brechmann, Sven Apel, Christian Kästner, Jörg Liebig, Thomas Leich, and Gunter Saake. Toward Measuring Program Comprehension with Functional Magnetic Resonance Imaging. In *Proceedings of the 20th International Symposium on Foundations of Software Engineering – New Ideas Track (FSE-NIER)*, pages 24:1–24:4, November 2012. Acceptance rate: 20 % (12/59).
- 127. Sebastian Erdweg, Tillmann Rendel, Christian Kästner, and Klaus Ostermann. Layout-Sensitive Generalized Parsing. In *Proceedings of the International Conference on Software Language Engineering (SLE)*, ISBN 978-3-642-36088-6, pages 244–263, Berlin/Heidelberg: Springer-Verlag, September 2012. Acceptance rate: 32 % (20/62).
- ★128. Christian Kästner, Klaus Ostermann, and Sebastian Erdweg. A Variability-Aware Module System. In *Proceedings of the 27th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 773–792, New York, NY: ACM Press, October 2012. Acceptance rate: 25 % (57/228).
- ★129. Norbert Siegmund, Sergiy S. Kolesnikov, Christian Kästner, Sven Apel, Don Batory, Marko Rosenmüller, and Gunter Saake. Predicting Performance via Automated Feature-Interaction Detection. In *Proceedings of the 34th International Conference on Software Engineering (ICSE)*, ISBN 978-1-4673-1067-3, pages 167–177, Los Alamitos, CA: IEEE Computer Society, 2012. Acceptance rate: 21 % (87/408).
- 130. Sebastian Erdweg, Lennart C.L. Kats, Tillmann Rendel, Christian Kästner, Klaus Ostermann, and Eelco Visser. Growing a Language Environment with Editor Libraries. In *Proceedings of the 10th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-4503-0689-8, pages 167–176, New York, NY: ACM Press, October 2011. Acceptance rate: 31 % (18/58).

★131. Christian Kästner, Paolo G. Giarrusso, Tillmann Rendel, Sebastian Erdweg, Klaus Ostermann, and Thorsten Berger. Variability-Aware Parsing in the Presence of Lexical Macros and Conditional Compilation. In *Proceedings of the 26th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, ISBN 978-1-4503-0940-0, pages 805–824, New York, NY: ACM Press, October 2011. Acceptance rate: 37 % (61/166).

132. Sebastian Erdweg, Tillmann Rendel, Christian Kästner, and Klaus Ostermann. SugarJ: Library-based Syntactic Language Extensibility. In *Proceedings of the 26th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, ISBN 978-1-4503-0940-0, pages 391–406, New York, NY: ACM Press, October 2011. Acceptance rate: 37 % (61/166). **Distinguished Paper Award in 2011 and Most Influencial Paper Award in 2021.**

133. Sven Apel, Jörg Liebig, Benjamin Brandl, Christian Lengauer, and Christian Kästner. Semistructured Merge: Rethinking Merge in Revision Control Systems. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 190–200, New York, NY: ACM Press, September 2011. Acceptance rate: 17 % (34/203).

134. Janet Feigenspan, Sven Apel, Jörg Liebig, and Christian Kästner. Exploring Software Measures to Assess Program Comprehension. In *Proceedings of the 5th International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pages 1–10, paper 3, Los Alamitos, CA: IEEE Computer Society, September 2011. Acceptance rate: 31 % (33/105).

135. Thomas Thüm, Christian Kästner, Sebastian Erdweg, and Norbert Siegmund. Abstract Features in Feature Modeling. In *Proceedings of the 15th International Software Product Line Conference (SPLC)*, pages 191–200, Los Alamitos, CA: IEEE Computer Society, August 2011. Acceptance rate: 29 % (20/69).

136. Norbert Siegmund, Marko Rosenmüller, Christian Kästner, Paolo G. Giarrusso, Sven Apel, and Sergiy S. Kolesnikov. Scalable Prediction of Non-functional Properties in Software Product Lines. In *Proceedings of the 15th International Software Product Line Conference (SPLC)*, pages 160–169, Los Alamitos, CA: IEEE Computer Society, August 2011. Acceptance rate: 29 % (20/69). **Best Paper Award.**

137. Sven Apel, Florian Heidenreich, Christian Kästner, and Marko Rosenmüller. Third International Workshop on Feature-Oriented Software Development (FOSD 2011). In *Proceedings of the 15th International Software Product Line Conference (SPLC)*, pages 337–338, Los Alamitos, CA: IEEE Computer Society, August 2011.

★138. Klaus Ostermann, Paolo G. Giarrusso, Christian Kästner, and Tillmann Rendel. Revisiting Information Hiding: Reflections on Classical and Non-classical Modularity. In *Proceedings of the 25th European Conference on Object-Oriented Programming (ECOOP)*, volume 6813 of *Lecture Notes in Computer Science*, pages 155–178, Berlin/Heidelberg: Springer-Verlag, 2011. Acceptance rate: 26 % (26/100).

139. Janet Feigenspan, Michael Schulze, Maria Papendieck, Christian Kästner, Raimund Dachselt, Veit Köppen, and Mathias Frisch. Using Background Colors to Support Program Comprehension in Software Product Lines. In *Proceedings of the 15th International Conference on Evaluation and Assessment in Software Engineering (EASE)*, pages 66–75, Institution of Engineering and Technology, 2011. Acceptance rate: 40 % (20/50).

140. Michael Stengel, Janet Feigenspan, Mathias Frisch, Christian Kästner, Sven Apel, and Raimund Dachselt. View Infinity: A Zoomable Interface for Feature-Oriented Software Development. In *Proceedings of the 33rd*

*International Conference on Software Engineering (Demonstration Track) (ICSE)*, ISBN 978-1-4503-0445-0, pages 1031–1033, New York, NY: ACM Press, 2011. Acceptance rate: 37 % (22/60).

141. Mario Pukall, Alexander Grebhahn, Reimar Schröter, Christian Kästner, Walter Cazzola, and Sebastian Götz. JavaAdaptor: Unrestricted Dynamic Software Updates for Java. In *Proceedings of the 33rd International Conference on Software Engineering (Demonstration Track) (ICSE)*, ISBN 978-1-4503-0445-0, pages 989–991, New York, NY: ACM Press, 2011. Acceptance rate: 37 % (22/60).
- ★142. Jörg Liebig, Christian Kästner, and Sven Apel. Analyzing the Discipline of Preprocessor Annotations in 30 Million Lines of C Code. In *Proceedings of the 10th ACM International Conference on Aspect-Oriented Software Development (AOSD)*, pages 191–202, New York, NY: ACM Press, March 2011. Acceptance rate: 23 % (21/92).
143. Sven Apel, Wolfgang Scholz, Christian Lengauer, and Christian Kästner. Dependences and Interactions in Feature-Oriented Design. In *Proceedings of the 21st IEEE International Symposium on Software Reliability Engineering (ISSRE)*, pages 161–170, Los Alamitos, CA: IEEE Computer Society, October 2010. Acceptance rate: 31 % (40/130).
144. Sandro Schulze, Sven Apel, and Christian Kästner. Code Clones in Feature-Oriented Software Product Lines. In *Proceedings of the 9th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 103–112, New York, NY: ACM Press, October 2010. Acceptance rate: 31 % (18/59).
- ★145. Jörg Liebig, Sven Apel, Christian Lengauer, Christian Kästner, and Michael Schulze. An Analysis of the Variability in Forty Preprocessor-Based Software Product Lines. In *Proceedings of the 32nd International Conference on Software Engineering (ICSE)*, pages 105–114, New York, NY: ACM Press, May 2010. Acceptance rate: 14 % (52/380).
146. Christian Kästner, Sven Apel, and Gunter Saake. Virtuelle Trennung von Belangen (Präprozessor 2.0). In *Proceedings of the Software Engineering 2010 – Fachtagung des GI-Fachbereichs Softwaretechnik (SE)*, volume P-159 of *Lecture Notes in Informatics*, pages 165–176, Bonn, Germany: Gesellschaft für Informatik (GI), February 2010. Acceptance rate: 36 % (17/47).
- ★147. Christian Kästner, Sven Apel, and Martin Kuhlemann. A Model of Refactoring Physically and Virtually Separated Features. In *Proceedings of the 8th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-60558-828-5, pages 157–166, New York, NY: ACM Press, October 2009. Acceptance rate: 31 % (19/62).
148. Martin Kuhlemann, Don Batory, and Christian Kästner. Safe Composition of Non-Monotonic Features. In *Proceedings of the 8th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-60558-828-5, pages 177–185, New York, NY: ACM Press, October 2009. Acceptance rate: 31 % (19/62).
149. Christian Kästner, Sven Apel, Syed Saif ur Rahman, Marko Rosenmüller, Don Batory, and Gunter Saake. On the Impact of the Optional Feature Problem: Analysis and Case Studies. In *Proceedings of the 13rd International Software Product Line Conference (SPLC)*, ISBN 978-0-9786956-2-0, pages 181–190, Pittsburgh, PA: SEI, August 2009. Acceptance rate: 36 % (30/83).
150. Sven Apel, Florian Janda, Salvador Trujillo, and Christian Kästner. Model Superimposition in Software Product Lines. In *Proceedings of the 2nd International Conference on Model Transformation (ICMT)*, ISBN 978-3-642-02407-8, pages 4–19, Berlin/Heidelberg: Springer-Verlag, June 2009. Acceptance rate: 21 % (14/67).

151. Sven Apel, Christian Kästner, Armin Größlinger, and Christian Lengauer. Feature (De)composition in Functional Programming. In *Proceedings of the 8th International Conference on Software Composition (SC) (SC)*, ISBN 978-3-642-02654-6, pages 9–26, Berlin/Heidelberg: Springer-Verlag, July 2009. Acceptance rate: 33 % (10/30).
152. Stefan Boxleitner, Sven Apel, and Christian Kästner. Language-Independent Quantification and Weaving for Feature Composition. In *Proceedings of the 8th International Conference on Software Composition (SC) (SC)*, ISBN 978-3-642-02654-6, pages 45–54, Berlin/Heidelberg: Springer-Verlag, July 2009. Acceptance rate: 33 % (10/30). Short Paper.
153. Christian Kästner, Sven Apel, Salvador Trujillo, Martin Kuhlemann, and Don Batory. Guaranteeing Syntactic Correctness for all Product Line Variants: A Language-Independent Approach. In *Proceedings of the 47th International Conference Objects, Models, Components, Patterns (TOOLS EU-ROPE)*, volume 33 of *Lecture Notes in Business Information Processing*, pages 175–194, Berlin/Heidelberg: Springer-Verlag, June 2009. Acceptance rate: 28 % (19/67).
154. Christian Kästner, Thomas Thüm, Gunter Saake, Janet Feigenspan, Thomas Leich, Fabian Wielgorz, and Sven Apel. FeatureIDE: Tool Framework for Feature-Oriented Software Development. In *Proceedings of the 31st International Conference on Software Engineering (ICSE)*, ISBN 978-1-4244-3452-7, pages 611–614, Los Alamitos, CA: IEEE Computer Society, May 2009. Acceptance rate: 33 % (24/72). Formal Demonstration paper.
155. Marko Rosenmüller, Christian Kästner, Norbert Siegmund, Sagar Sunkle, Sven Apel, Thomas Leich, and Gunter Saake. SQL à la Carte – Toward Tailor-made Data Management. In *Proceedings of the 13. GI-Fachtagung Datenbanksysteme für Business, Technologie und Web (BTW)*, ISBN 978-3-88579-238-3, pages 117–136, Bonn, Germany: Gesellschaft für Informatik (GI), March 2009.
156. Norbert Siegmund, Christian Kästner, Marko Rosenmüller, Florian Heidenreich, Sven Apel, and Gunter Saake. Bridging the Gap between Variability in Client Application and Database Schema. In *Proceedings of the 13. GI-Fachtagung Datenbanksysteme für Business, Technologie und Web (BTW)*, ISBN 978-3-88579-238-3, pages 297–306, Bonn, Germany: Gesellschaft für Informatik (GI), March 2009.
157. Sven Apel, Christian Kästner, and Christian Lengauer. Vergleich und Integration von Komposition und Annotation zur Implementierung von Produktlinien. In *Proceedings of the Software Engineering 2009 – Fachtagung des GI-Fachbereichs Softwaretechnik (SE)*, volume P-143 of *Lecture Notes in Informatics*, pages 101–112, Bonn, Germany: Gesellschaft für Informatik (GI), March 2009.
- ★158. Thomas Thüm, Don Batory, and Christian Kästner. Reasoning about Edits to Feature Models. In *Proceedings of the 31st International Conference on Software Engineering (ICSE)*, ISBN 978-1-4244-3452-7, pages 254–264, Los Alamitos, CA: IEEE Computer Society, May 2009. Acceptance rate: 12 % (50/405).
159. Sven Apel, Christian Kästner, and Christian Lengauer. FeatureHouse: Language-Independent, Automated Software Composition. In *Proceedings of the 31st International Conference on Software Engineering (ICSE)*, ISBN 978-1-4244-3452-7, pages 221–231, Los Alamitos, CA: IEEE Computer Society, May 2009. Acceptance rate: 12 % (50/405).
160. Norbert Siegmund, Marko Rosenmüller, Martin Kuhlemann, Christian Kästner, and Gunter Saake. Measuring Non-functional Properties in Software Product Lines for Product Derivation. In *Proceedings of the 15th Asia-Pacific Software Engineering Conference (APSEC)*, ISBN 978-0-7695-3446-6, pages 187–194, Los Alamitos, CA: IEEE Computer Society, December 2008. Acceptance rate: 30 % (66/221).

161. Mario Pukall, Christian Kästner, and Gunter Saake. Towards Unanticipated Runtime Adaptation of Java Applications. In *Proceedings of the 15th Asia-Pacific Software Engineering Conference (APSEC)*, ISBN 978-0-7695-3446-6, pages 85–92, Los Alamitos, CA: IEEE Computer Society, December 2008. Acceptance rate: 30 % (66/221).
162. Sven Apel, Christian Kästner, and Christian Lengauer. Feature Featherweight Java: A Calculus for Feature-Oriented Programming and Stepwise Refinement. In *Proceedings of the 7th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-60558-267-2, pages 101–112, New York, NY: ACM Press, August 2008. Acceptance rate: 29 % (16/55).
163. Sven Apel, Christian Kästner, and Don Batory. Program Refactoring using Functional Aspects. In *Proceedings of the 7th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-60558-267-2, pages 161–170, New York, NY: ACM Press, August 2008. Acceptance rate: 29 % (16/55).
164. Chang Hwan Peter Kim, Christian Kästner, and Don Batory. On the Modularity of Feature Interactions. In *Proceedings of the 7th ACM International Conference on Generative Programming and Component Engineering (GPCE)*, ISBN 978-1-60558-267-2, pages 23–34, New York, NY: ACM Press, August 2008. Acceptance rate: 29 % (16/55).
165. Christian Kästner, and Sven Apel. Type-checking Software Product Lines – A Formal Approach. In *Proceedings of the 23rd IEEE/ACM International Conference on Automated Software Engineering (ASE)*, ISBN 978-1-4244-2187-9, pages 258–267, Los Alamitos, CA: IEEE Computer Society, September 2008. Acceptance rate: 11 % (30/280).
166. Sven Apel, Christian Lengauer, Bernhard Möller, and Christian Kästner. An Algebra for Features and Feature Composition. In *Proceedings of the 12th International Conference on Algebraic Methodology and Software Technology (AMAST)*, volume 5140 of *Lecture Notes in Computer Science*, pages 36–50, Berlin/Heidelberg: Springer-Verlag, July 2008. Acceptance rate: 47 % (27/58).
- ★167. Christian Kästner, Sven Apel, and Martin Kuhlemann. Granularity in Software Product Lines. In *Proceedings of the 30th International Conference on Software Engineering (ICSE)*, ISBN 978-1-60558-079-1, pages 311–320, New York, NY: ACM Press, May 2008. Acceptance rate: 15 % (56/371). **Most Influencial Paper Award at SPLC'19.**
168. Christian Kästner. CIDE: Decomposing Legacy Applications into Features. In *Proceedings of the 11st International Software Product Line Conference, second volume (Demonstration) (SPLC)*, ISBN 978-4-7649-0342-5, pages 149–150, 2007.
- ★169. Christian Kästner, Sven Apel, and Don Batory. A Case Study Implementing Features Using AspectJ. In *Proceedings of the 11st International Software Product Line Conference (SPLC)*, pages 223–232, Los Alamitos, CA: IEEE Computer Society, September 2007. Acceptance rate: 35 % (28/80).

### Invited Papers

170. Christian Kästner. Virtual Separation of Concerns: Toward Preprocessors 2.0. *Information Technology (it)*, 54(1):42–46, 2012.
171. Christian Kästner. Virtuelle Trennung von Belangen. In *Ausgezeichnete Informatikdissertationen 2010*, ISBN 9783885794158, pages 121–130, Bonn, Germany: Gesellschaft für Informatik (GI), 2011. Invited paper.
172. Christian Kästner, and Sven Apel. Virtual Separation of Concerns – A Second Chance for Preprocessors. *Journal of Object Technology (JOT)*, 8(6):59–78, September 2009. Refereed Column.

★173. Sven Apel, and Christian Kästner. An Overview of Feature-Oriented Software Development. *Journal of Object Technology (JOT)*, 8(5):49–84, July/August 2009. Refereed Column.

#### Refereed Workshop Papers, Posters, and Tool Demos

174. Jacob Tjaden. The Balancing Act of Policies in Developing Machine Learning Explanations. In *Proceedings of the International Conference on Software Engineering (Companion) (ICSE-SRC)*, pages 237–238, New York, NY: ACM Press, 2025. ICSE student research competition, first place.

175. Haesue Baik, Chenyang Yang, Vasudev Vikram, Pooyan Jamshidi, Rohan Padhye, and Christian Kästner. Differential Performance Fuzzing of Configuration Options. In *Proceedings of the International Workshop on Search-Based and Fuzz Testing (SBFT)*, April 2025.

176. Emily Nguyen. Do All Software Projects Die When Not Maintained? Analyzing Developer Maintenance to Predict OSS Usage. In *Proceedings of the Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (FSE-SRC)*, pages 2195–2197, New York, NY: ACM Press, 2023. FSE student research competition.

177. Katrina Wilson. Clearing the Trail: Motivations for Maintenance Work in Open Source. In *Proceedings of the International Conference on Systems, Programming, Languages, and Applications: Software for Humanity (Companion) (SPLASH-SRC)*, pages 34–36, New York, NY: ACM Press, 2023. SPLASH student research competition.

178. Chenyang Yang, Rachel A Brower-Sinning, Grace Lewis, Christian Kästner, and Tongshuang Wu. Capabilities for Better ML Engineering. In *Proceedings of the AAAI-23 Workshop on Artificial Intelligence Safety (SafeAI)*, pages 1–8, February 2023.

179. Philip Gray. To Disengage or Not to Disengage: A Look at Contributor Disengagement in Open Source Software. In *Proceedings of the International Conference on Software Engineering (Companion) (ICSE-SRC)*, pages 328–330, New York, NY: ACM Press, 2022. ICSE student research competition.

180. Kimberly Truong. Let's Talk Open-Source — An Analysis of Conference Talks and Community Dynamics. In *Proceedings of the International Conference on Software Engineering (Companion) (ICSE-SRC)*, pages 322–324, New York, NY: ACM Press, 2022. ICSE student research competition, first place.

181. Helen Dong, Shurui Zhou, Jin L.C. Guo, and Christian Kästner. Splitting, Renaming, Removing: A Study of Common Cleaning Activities in Jupyter Notebooks. In *Proceedings of the 9th International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE)*, pages 114–119, Los Alamitos, CA: IEEE Computer Society, November 2021.

182. Sophie Cohen. Contextualizing Toxicity in Open Source: A Qualitative Study. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE-SRC)*, pages 1669–1671, New York, NY: ACM Press, 2021. ESEC/FSE Student Research Competition.

183. Helen Dong. A Qualitative Study of Cleaning in Jupyter Notebooks. In *Proceedings of the European Software Engineering Conference and ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE-SRC)*, pages 1663–1665, New York, NY: ACM Press, 2021. ESEC/FSE Student Research Competition.

184. Asher Trockman. Adding sparkle to social coding: an empirical study of repository badges in the npm ecosystem. In *Proceedings of the 40th International Conference on Software Engineering (ICSE-SRC)*, pages 524–526,

New York, NY: ACM Press, 2017. ICSE Student research competition, first place.

185. Lukas Lazarek. How to Efficiently Process 2^100 List Variations. In *Proceedings of the 2017 ACM SIGPLAN Conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH-SRC)*, pages 36–38, New York, NY: ACM Press, 2017. SPLASH Student research competition, first place.
186. Luyao Ren, Shurui Zhou, and Christian Kästner. Poster: Forks Insight: Providing an Overview of GitHub Forks. In *Proceedings of the International Conference on Software Engineering (ICSE)*, pages 179–180, New York, NY: ACM Press, 2018. Poster.
187. Larissa Rocha Soares, Jens Meinicke, Sarah Nadi, Christian Kästner, and Eduardo Santana de Almeida. VarXplorer: Lightweight Process for Dynamic Inspection of Feature Interactions. In *Proceedings of the 12nd Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, pages 59–66, 2018.
188. Meng Meng, Jens Meinicke, Chu-Pan Wong, Eric Walkingshaw, and Christian Kästner. A Choice of Variational Stacks: Exploring Variational Data Structures. In *Proceedings of the 11st Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, pages 28–35, 2017.
189. Jafar Al-Kofahi, Tien N. Nguyen, and Christian Kästner. Escaping Auto-Hell: A Vision For Automated Analysis and Migration of Autotools Build Systems. In *Proceedings of the 4rd International Workshop on Release Engineering (Releng)*, pages 12–15, New York, NY: ACM Press, November 2016.
190. Prasad Kawthekar, and Christian Kästner. Sensitivity Analysis For Building Evolving & Adaptive Robotic Software. In *Proceedings of the IJCAI Workshop on Autonomous Mobile Service Robots (WSR)*, , July 2016.
191. Christopher Bogart, Christian Kästner, and James Herbsleb. When it Breaks, it Breaks: How Ecosystem Developers Reason About the Stability of Dependencies. In *Proceedings of the ASE Workshop on Software Support for Collaborative and Global Software Engineering (SCGSE)*, pages 86–89, November 2015.
192. Waqar Ahmad, Joshua Sunshine, Christian Kästner, and Adam Wynne. Enforcing Fine-Grained Security and Privacy Policies in an Ecosystem within an Ecosystem. In *Proceedings of the 3rd International Workshop on Mobile Development Lifecycle (MobileDeLi)*, pages 28–34, October 2015.
193. Shurui Zhou, Jafar Al-Kofahi, Tien N. Nguyen, Christian Kästner, and Sarah Nadi. Extracting Configuration Knowledge from Build Files with Symbolic Analysis. In *Proceedings of the 3rd International Workshop on Release Engineering (Releng)*, pages 20–23, New York, NY: ACM Press, May 2015.
194. Sven Apel, Sergiy S. Kolesnikov, Norbert Siegmund, Christian Kästner, and Brady Garvin. Exploring Feature Interactions in the Wild: The New Feature-Interaction Challenge. In *Proceedings of the 5th International Workshop on Feature-Oriented Software Development (FOSD)*, pages 1–8, New York, NY: ACM Press, October 2013. Acceptance rate: 75 % (6/8).
195. Leonardo Passos, Krzysztof Czarnecki, Sven Apel, Andrzej Wąsowski, Christian Kästner, and Jianmei Guo. Feature Oriented Software Evolution. In *Proceedings of the 7th Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, ISBN 978-1-4503-1541-8, pages 17:1–17:8, New York, NY: ACM Press, January 2013. Acceptance rate: 42 % (19/45).
196. Sergiy S. Kolesnikov, Sven Apel, Norbert Siegmund, Stefan Sobernig, Christian Kästner, and Semah Senkaya. Predicting Quality Attributes of

Software Product Lines Using Software and Network Measures and Feature Sampling. In *Proceedings of the 7th Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, ISBN 978-1-4503-1541-8, pages 6:1–6:5, New York, NY: ACM Press, January 2013. Acceptance rate: 42 % (19/45).

197. Alexander von Rhein, Sven Apel, Christian Kästner, Thomas Thüm, and Ina Schaefer. The PLA Model: On the Combination of Product-Line Analyses. In *Proceedings of the 7th Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, ISBN 978-1-4503-1541-8, pages 14:1–14:8, New York, NY: ACM Press, January 2013. Acceptance rate: 42 % (19/45).

198. Christian Kästner, Alexander von Rhein, Sebastian Erdweg, Jonas Pusch, Sven Apel, Tillmann Rendel, and Klaus Ostermann. Toward Variability-Aware Testing. In *Proceedings of the 4th International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-4503-1309-4, pages 1–8, New York, NY: ACM Press, September 2012. Acceptance rate: 57 % (8/14).

199. Janet Siegmund, Christian Kästner, Jörg Liebig, and Sven Apel. Comparing Program Comprehension of Physically and Virtually Separated Concerns. In *Proceedings of the 4th International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-4503-1309-4, pages 17–24, New York, NY: ACM Press, September 2012. Acceptance rate: 57 % (8/14).

200. Paolo G. Giarrusso, Klaus Ostermann, Michael Eichberg, Tillmann Rendel, and Christian Kästner. Reifying and Optimizing Collection Queries for Modularity. In *Proceedings of the 26th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 77–78, New York, NY: ACM Press, 2012. Poster.

201. Janet Feigenspan, Christian Kästner, Jörg Liebig, Sven Apel, and Stefan Hanenberg. Measuring Programming Experience. In *Proceedings of the 20th International Conference on Program Comprehension (ICPC)*, pages 73–82, Los Alamitos, CA: IEEE Computer Society, 2012. Acceptance rate: 41 % (21/51). **Most Influencial Paper Award at ICPC'22**.

\*202. Christian Kästner, Sven Apel, and Klaus Ostermann. The Road to Feature Modularity? In *Proceedings of the 3rd International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-4503-0789-5, pages 5:1–5:8, New York, NY: ACM Press, September 2011.

203. Janet Feigenspan, Maria Papendieck, Christian Kästner, Mathias Frisch, and Raimund Dachselt. FeatureCommander: Colorful `#ifdef` World. In *Proceedings of the 15th International Software Product Line Conference (SPLC), second volume (Demonstration) (SPLC)*, ISBN 978-1-4503-0789-5, pages 48:1–48:2, New York, NY: ACM Press, September 2011.

204. Sebastian Erdweg, Lennart C.L. Kats, Tillmann Rendel, Christian Kästner, Klaus Ostermann, and Eelco Visser. SugarJ: Library-Based Language Extensibility. In *Proceedings of the 26th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, ISBN 978-1-4503-0942-4, pages 187–188, New York, NY: ACM Press, 2011. Poster.

205. Sebastian Erdweg, Lennart C.L. Kats, Tillmann Rendel, Christian Kästner, Klaus Ostermann, Lennart C.L. Kats, and Eelco Visser. Library-Based Model-Driven Software Development with SugarJ. In *Proceedings of the 26th Annual ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, ISBN 978-1-4503-0942-4, pages 17–18, New York, NY: ACM Press, 2011. Demonstration paper.

206. Ateeq Khan, Christian Kästner, Veit Köppen, and Gunter Saake. Service Variability Patterns. In *Proceedings of the ER Workshop on Software*

*Variability Management (Variability@ER)*, volume 6999 of *Lecture Notes in Computer Science*, pages 130–140, Berlin/Heidelberg: Springer-Verlag, 2011.

207. Christian Kästner, Paolo G. Giarrusso, and Klaus Ostermann. Partial Pre-processing C Code for Variability Analysis. In *Proceedings of the 5th Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, ISBN 978-1-4503-0570-9, pages 137–140, New York, NY: ACM Press, January 2011. Acceptance rate: 55 % (21/38).
208. Andy Kenner, Christian Kästner, Steffen Haase, and Thomas Leich. Type-Chef: Toward Type Checking #ifdef Variability in C. In *Proceedings of the 2nd International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-4503-0208-1, pages 25–32, New York, NY: ACM Press, October 2010. Acceptance rate: 55 % (11/20).
209. Sven Apel, Wolfgang Scholz, Christian Lengauer, and Christian Kästner. Language-Independent Reference Checking in Software Product Lines. In *Proceedings of the 2nd International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-4503-0208-1, pages 64–71, New York, NY: ACM Press, October 2010. Acceptance rate: 55 % (11/20).
210. Janet Feigenspan, Christian Kästner, Mathias Frisch, Raimund Dachselt, and Sven Apel. Visual Support for Understanding Product Lines. In *Proceedings of the 18th International Conference on Program Comprehension (ICPC)*, ISBN 978-1-4244-7604-6, pages 34–35, Los Alamitos, CA: IEEE Computer Society, 2010. Demonstration paper.
211. Sven Apel, Jörg Liebig, Christian Lengauer, Christian Kästner, and William R. Cook. Semistructured Merge in Revision Control Systems. In *Proceedings of the 4th Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, pages 13–20, Essen, Germany: University of Duisburg-Essen, January 2010.
212. Janet Feigenspan, Christian Kästner, Sven Apel, and Thomas Leich. How to Compare Program Comprehension in FOSD Empirically – An Experience Report. In *Proceedings of the 1st International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-60558-567-3, pages 55–62, New York, NY: ACM Press, October 2009.
213. Sven Apel, Jörg Liebig, Christian Kästner, Martin Kuhlemann, and Thomas Leich. An Orthogonal Access Modifier Model for Feature-Oriented Programming. In *Proceedings of the 1st International Workshop on Feature-Oriented Software Development (FOSD)*, ISBN 978-1-60558-567-3, pages 27–34, New York, NY: ACM Press, October 2009.
214. Christian Kästner, Sven Apel, and Gunter Saake. Sichere Produktlinien: Herausforderungen für Syntax- und Typ-Prüfungen. In *Proceedings of the 26. Workshop der GI-Fachgruppe Programmiersprachen und Rechenkonzepte ()*, pages 37–38, Kiel, Germany: University of Kiel, May 2009.
215. Christian Kästner, and Sven Apel. Integrating Compositional and Annotation Approaches for Product Line Engineering. In *Proceedings of the GPCE Workshop on Modularization, Composition and Generative Techniques for Product Line Engineering (McGPL)*, pages 35–40, Passau, Germany: Department of Informatics and Mathematics, University of Passau, October 2008.
216. Marko Rosenmüller, Norbert Siegmund, Syed Saif ur Rahman, and Christian Kästner. Modeling Dependent Software Product Lines. In *Proceedings of the GPCE Workshop on Modularization, Composition and Generative Techniques for Product Line Engineering (McGPL)*, pages 13–18, Passau, Germany: Department of Informatics and Mathematics, University of Passau, October 2008.

217. Christian Kästner, Salvador Trujillo, and Sven Apel. Visualizing Software Product Line Variabilities in Source Code. In *Proceedings of the 2nd International SPLC Workshop on Visualisation in Software Product Line Engineering (ViSPLC)*, ISBN 978-1-905952-06-9, pages 303–313, September 2008.

218. Sven Apel, Christian Kästner, and Christian Lengauer. Research Challenges in the Tension Between Features and Services. In *Proceedings of the ICSE Workshop on Systems Development in SOA Environments (SD-SOA)*, ISBN 978-1-60558-029-6, pages 53–58, New York, NY: ACM Press, May 2008.

219. Norbert Siegmund, Martin Kuhlemann, Marko Rosenmüller, Christian Kästner, and Gunter Saake. Integrated Product Line Model for Semi-Automated Product Derivation Using Non-Functional Properties. In *Proceedings of the 2nd Int'l Workshop on Variability Modelling of Software-Intensive Systems (VaMoS)*, pages 25–23, Essen, Germany: University of Duisburg-Essen, January 2008.

220. Martin Kuhlemann, and Christian Kästner. Reducing the Complexity of AspectJ Mechanisms for Recurring Extensions. In *Proceedings of the GPCE Workshop on Aspect-Oriented Product Line Engineering (AOPLE)*, pages 14–19, 2007.

221. Salvador Trujillo, Christian Kästner, and Sven Apel. Product Lines that supply other Product Lines: A Service-Oriented Approach. In *Proceedings of the SPLC Workshop on Service-Oriented Architectures and Product Lines (SOAPL)*, pages 69–76, Pittsburgh, PA: SEI, September 2007.

222. Christian Kästner, Martin Kuhlemann, and Don Batory. Automating Feature-Oriented Refactoring of Legacy Applications. In *Proceedings of the ECOOP Workshop on Refactoring Tools (WRT)*, pages 62–63, Berlin, Germany: TU Berlin, July 2007.

223. Sven Apel, Christian Kästner, and Salvador Trujillo. On the Necessity of Empirical Studies in the Assessment of Modularization Mechanisms for Crosscutting Concerns. In *Proceedings of the ICSE Workshop on Assessment of Contemporary Modularization Techniques (ACoM)*, Los Alamitos, CA: IEEE Computer Society, May 2007.

224. Christian Kästner, Sven Apel, and Gunter Saake. Implementing Bounded Aspect Quantification in AspectJ. In *Proceedings of the 4th Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE)*, pages 111–122, Magdeburg, Germany: University of Magdeburg, July 2006.

### Technical Reports

225. Nadia Nahar, Chenyang Yang, Yanxin Chen, Wesley Hanwen Deng, Ken Holstein, Motahhare Eslami, and Christian Kästner. "I Don't Think RAI Applies to My Model" – Engaging Non-champions with Sticky Stories for Responsible AI Work. Technical Report 2509.22858, arXiv, September 2025.

226. Chenyang Yang, Yike Shi, Qianou Ma, Michael Xieyang Liu, Christian Kästner, and Tongshuang Wu. What Prompts Don't Say: Understanding and Managing Underspecification in LLM Prompts. Technical Report 2505.13360, arXiv, May 2025.

227. Omid Gheibi, Christian Kästner, and Pooyan Jamshidi. Hardness, Structural Knowledge, and Opportunity: An Analytical Framework for Modular Performance Modeling. Technical Report 2509.11000, arXiv, September 2025.

228. Zahra Abba Omar, Nadia Nahar, Jacob Tjaden, Inès M. Gilles, Fikir Mekonnen, Jane Hsieh, Christian Kästner, and Menon Alka. Beyond Accuracy,

SHAP, and Anchors – On the difficulty of designing effective end-user explanations. Technical Report 2503.15512, arXiv, January 2025.

- 229. Hao He, Haoqin Yang, Philipp Burckhardt, Alexandros Kapravelos, Bogdan Vasilescu, and Christian Kästner. 4.5 Million (Suspected) Fake Stars in GitHub: A Growing Spiral of Popularity Contests, Scams, and Malware. Technical Report 2412.13459, arXiv, December 2024.
- 230. Nadia Nahar, Christian Kästner, Jenna Butler, Chris Parnin, Thomas Zimmermann, and Christian Bird. Beyond the Comfort Zone: Emerging Solutions to Overcome Challenges in Integrating LLMs into Software Products. Technical Report 2410.12071, arXiv, October 2024.
- 231. Nadia Nahar, Haoran Zhang, Grace Lewis, Shurui Zhou, and Christian Kästner. A Dataset and Analysis of Open-Source Machine Learning Products. Technical Report 2308.04328, arXiv, August 2023.
- 232. Christian Kästner, Eunsuk Kang, and Sven Apel. Feature Interactions on Steroids: On the Composition of ML Models. Technical Report 2105.06449, arXiv, May 2021.
- 233. Chu-Pan Wong, Jens Meinicke, Leo Chen, João P. Diniz, Christian Kästner, and Eduardo Figueiredo. Efficiently Finding Higher-Order Mutants. Technical Report 2004.02000, arXiv, April 2020.
- 234. Gabriel Ferreira, Christian Kästner, Joshua Sunshine, Sven Apel, and William Scherlis. Design Dimensions for Software Certification: A Grounded Analysis. Technical Report 1905.09760, arXiv, May 2019.
- 235. Miguel Velez, Pooyan Jamshidi, Florian Sattler, Norbert Siegmund, Sven Apel, and Christian Kästner. ConfigCrusher: White-Box Performance Analysis for Configurable Systems. Technical Report 1905.02066, arXiv, May 2019.
- 236. Leo Chen. Finding Higher Order Mutants Using Variational Execution. Technical Report 1809.04563, arXiv, September 2018. SPLASH Student research competition.
- 237. Jens Meinicke, Chu-Pan Wong, Christian Kästner, and Gunter Saake. Understanding Differences among Executions with Variational Traces. Technical Report 1807.03837, arXiv, July 2018.
- 238. Sergiy S. Kolesnikov, Norbert Siegmund, Christian Kästner, and Sven Apel. On the Relation of External and Internal Feature Interactions: A Case Study. Technical Report 1712.07440, arXiv, December 2017.
- 239. Christian Kästner. Differential Testing for Variational Analyses: Experience from Developing KConfigReader. Technical Report 1706.09357, arXiv, June 2017.
- 240. Sarah Nadi, Thorsten Berger, Christian Kästner, and Krzysztof Czarnecki. Where do Configuration Constraints Stem From? An Extraction Approach and an Empirical Study. Technical Report GSDLAB-TR 2015-01-27, Waterloo, ON, Canada: Generative Software Development Laboratory, University of Waterloo, January 2015.
- 241. Zack Coker, Samir Hasan, Jeffrey Overbey, Munawar Hafiz, and Christian Kästner. Integers In C: An Open Invitation to Security Attacks? Technical Report CSSE14-01, Auburn, AL: College of Engineering, Auburn University, February 2014.
- 242. Jörg Liebig, Alexander von Rhein, Christian Kästner, Sven Apel, Jens Dörre, and Christian Lengauer. Large-Scale Variability-Aware Type Checking and Dataflow Analysis. Technical Report MIP-1212, Passau, Germany: Department of Informatics and Mathematics, University of Passau, November 2012.

243. Christian Kästner, Klaus Ostermann, and Sebastian Erdweg. A Variability-Aware Module System. Technical Report 01/2012, Marburg, Germany: Department of Mathematics and Computer Science, Philipps University Marburg, April 2012.

244. Thomas Thüm, Sven Apel, Christian Kästner, Martin Kuhlemann, Ina Schaefer, and Gunter Saake. Analysis Strategies for Software Product Lines. Technical Report FIN-2012-04, Magdeburg, Germany: University of Magdeburg, April 2012.

245. Christian Kästner, Alexander Dreiling, and Klaus Ostermann. Variability Mining with LEADT. Technical Report 01/2011, Marburg, Germany: Department of Mathematics and Computer Science, Philipps University Marburg, September 2011.

246. Martin Kuhlemann, Christian Kästner, Sven Apel, and Gunter Saake. An Algebra for Refactoring and Feature-Oriented Programming. Technical Report FIN-2011-06, Magdeburg, Germany: University of Magdeburg, September 2011.

247. Mario Pukall, Christian Kästner, Sebastian Götz, Walter Cazzola, and Gunter Saake. Flexible Runtime Program Adaptations in Java – A Comparison. Technical Report FIN-2009-14, Magdeburg, Germany: University of Magdeburg, November 2009.

248. Sven Apel, Christian Kästner, Armin Größlinger, and Christian Lengauer. Type-Safe Feature-Oriented Product Lines. Technical Report MIP-0909, Passau, Germany: Department of Informatics and Mathematics, University of Passau, June 2009.

249. Christian Kästner, Sven Apel, and Martin Kuhlemann. LJ<sup>AR</sup>: A Model of Refactoring Physically and Virtually Separated Features. Technical Report FIN-2009-08, Magdeburg, Germany: University of Magdeburg, May 2009.

250. Sven Apel, Christian Kästner, Armin Größlinger, and Christian Lengauer. On Feature Orientation and Functional Programming. Technical Report MIP-0806, Passau, Germany: Department of Informatics and Mathematics, University of Passau, November 2008.

251. Sven Apel, Christian Kästner, and Christian Lengauer. An Overview of Feature Featherweight Java. Technical Report MIP-0802, Passau, Germany: Department of Informatics and Mathematics, University of Passau, April 2008.

252. Christian Kästner, Sven Apel, Salvador Trujillo, Martin Kuhlemann, and Don Batory. Language-Independent Safe Decomposition of Legacy Applications into Features. Technical Report FIN-2008-02, Magdeburg, Germany: University of Magdeburg, March 2008.

253. Sven Apel, Christian Lengauer, Don Batory, Bernhard Möller, and Christian Kästner. An Algebra for Feature-Oriented Software Development. Technical Report MIP-0706, Passau, Germany: Department of Informatics and Mathematics, University of Passau, July 2007.

254. Sven Apel, Christian Kästner, Thomas Leich, and Gunter Saake. Aspect Refinement. Technical Report FIN-2006-10, Magdeburg, Germany: University of Magdeburg, August 2006.

### Miscellaneous

255. Marianne Huchard, Christian Kästner, and Gordon Fraser, editors. Proceedings of the 33rd ACM/IEEE International Conference on Automated Software Engineering, ASE 2018, Montpellier, France, September 3-7, 2018. New York, NY: ACM Press, September 2018.

256. Christian Kästner, and Aniruddha S. Gokhale, editors. Proceedings of the 2015 ACM SIGPLAN International Conference on Generative Programming: Concepts and Experiences, GPCE 2015, Pittsburgh, PA, USA, October 26-27, 2015. New York, NY: ACM Press, October 2015.
257. Jaakkо Järvi, and Christian Kästner, editors. Generative Programming: Concepts and Experiences, GPCE'13, Indianapolis, IN, USA - October 27 - 28, 2013. New York, NY: ACM Press, October 2013.
258. Christian Kästner, and Sven Apel. Feature-Oriented Software Development: A Short Tutorial on Feature-Oriented Programming, Virtual Separation of Concerns, and Variability-Aware Analysis. In *GTSE Summer School: Generative & Transformational Techniques in Software Engineering*, volume 7680 of *Lecture Notes in Computer Science*, pages 346–382, Berlin/Heidelberg: Springer-Verlag, 2011.
259. Sven Apel, Don Batory, Krzysztof Czarnecki, Florian Heidenreich, Christian Kästner, and Oscar Nierstrasz, editors. Proceedings of the Second International Workshop on Feature-Oriented Software Development (FOSD), October 10, 2010, Eindhoven, The Netherlands. New York, NY: ACM Press, October 2010.
260. Christian Kästner. Virtual Separation of Concerns: Toward Preprocessors 2.0. PhD thesis, Magdeburg, Germany: University of Magdeburg, May 2010. Logos Verlag Berlin, isbn 978-3-8325-2527-9.
261. Martin Kuhlemann, Christian Kästner, and Sven Apel. Reducing Code Replication in Delegation-Based Java Programs. In *Java Software and Embedded Systems*, ISBN 978-1-60741-661-6, pages 171–183, Hauppauge, NY: Nova Science Publishers, Inc., 2010.
262. Sven Apel, William R. Cook, Krzysztof Czarnecki, Christian Kästner, Neil Loughran, and Oscar Nierstrasz, editors. Proceedings of the First International Workshop on Feature-Oriented Software Development (FOSD), October 6, 2009, Denver, Colorado, USA. New York, NY: ACM Press, October 2009.
263. Christian Kästner. Aspect-Oriented Refactoring of Berkeley DB. Diplomarbeit, Magdeburg, Germany: University of Magdeburg, March 2007.