Christian KÃ¤stner

List of Publications by Year
in descending order

131 papers	7,168 citations	218677 26 h-index	197818 49 g-index
131 all docs	131 docs citations	131 times ranked	1729 citing authors

#	Article	IF	Citations
1	Feature-Oriented Software Product Lines. , 2013, , .		505
2	A Classification and Survey of Analysis Strategies for Software Product Lines. ACM Computing Surveys, 2014, 47, 1-45.	23.0	360
3	FeatureIDE: An extensible framework for feature-oriented software development. Science of Computer Programming, 2014, 79, 70-85.	1.9	336
4	Granularity in software product lines. , 2008, , .		302
5	An Overview of Feature-Oriented Software Development.. Journal of Object Technology, 2009, 8, 49.	0.9	291
6	An analysis of the variability in forty preprocessor-based software product lines. , 2010, , .		237
7	Reasoning about edits to feature models. , 2009, , .		206
8	Variability-aware parsing in the presence of lexical macros and conditional compilation. , 2011, , .		166
9	Performance-influence models for highly configurable systems. , 2015, , .		165
10	How to break an API: cost negotiation and community values in three software ecosystems. , 2016, , .		147
11	FeatureIDE: A tool framework for feature-oriented software development. , 2009, , .		146
12	FEATUREHOUSE: Language-independent, automated software composition. , 2009, , .		137
13	SPL Conqueror: Toward optimization of non-functional properties in software product lines. Software Quality Journal, 2012, 20, 487-517.	2.2	134
14	Type checking annotation-based product lines. ACM Transactions on Software Engineering and Methodology, 2012, 21, 1-39.	6.0	132
15	Scalable analysis of variable software. , 2013, , .		128
16	A comparison of 10 sampling algorithms for configurable systems. , 2016, , .		115
17	Predicting performance via automated feature-interaction detection. , 2012, , .		103
18	SugarJ. , 2011, , .		97

#	ARTICLE	IF	CITATIONS
19	Mining configuration constraints: static analyses and empirical results. , 2014, , .		93
20	Type safety for feature-oriented product lines. Automated Software Engineering, 2010, 17, 251-300.	2.9	91
21	Measuring and modeling programming experience. Empirical Software Engineering, 2014, 19, 1299-1334.	3.9	89
22	Analyzing the discipline of preprocessor annotations in 30 million lines of C code. , 2011, , .		84
23	Semistructured merge. , 2011, , .		80
24	Abstract Features in Feature Modeling. , 2011, , .		80
25	Type-Checking Software Product Lines - A Formal Approach. , 2008, , .		79
26	A Case Study Implementing Features Using AspectJ. , 2007, , .		76
27	Language-Independent and Automated Software Composition: The FeatureHouse Experience. IEEE Transactions on Software Engineering, 2013, 39, 63-79.	5.6	74
28	Model Superimposition in Software Product Lines. Lecture Notes in Computer Science, 2009, , 4-19.	1.3	73
29	Exploring variability-aware execution for testing plugin-based web applications. , 2014, , .		72
30	Measuring neural efficiency of program comprehension. , 2017, , .		71
31	Where Do Configuration Constraints Stem From? An Extraction Approach and an Empirical Study. IEEE Transactions on Software Engineering, 2015, 41, 820-841.	5.6	70
32	Measuring programming experience. , 2012, , .		69
33	Do background colors improve program comprehension in the #ifdef hell?. Empirical Software Engineering, 2013, 18, 699-745.	3.9	67
34	Scalable prediction of non-functional properties in software product lines: Footprint and memory consumption. Information and Software Technology, 2013, 55, 491-507.	4.4	67
35	Variability Mining: Consistent Semi-automatic Detection of Product-Line Features. IEEE Transactions on Software Engineering, 2014, 40, 67-82.	5.6	67
36	Preprocessor-based variability in open-source and industrial software systems: An empirical study. Empirical Software Engineering, 2016, 21, 449-482.	3.9	64

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37	A variability-aware module system. , 2012, , .		63
38	Exploring feature interactions in the wild. , 2013, , .		63
39	On essential configuration complexity: measuring interactions in highly-configurable systems. , 2016, , .		60
40	TypeChef. , 2010, , .		57
41	Transfer learning for performance modeling of configurable systems: An exploratory analysis. , 2017, , .		55
42	Transfer Learning for Improving Model Predictions in Highly Configurable Software. , 2017, , .		53
43	Types and modularity for implicit invocation with implicit announcement. ACM Transactions on Software Engineering and Methodology, 2010, 20, 1-43.	6.0	50
44	Feature-interaction detection based on feature-based specifications. Computer Networks, 2013, 57, 2399-2409.	5.1	50
45	Scalable Prediction of Non-functional Properties in Software Product Lines. , 2011, , .		47
46	Feature-oriented software evolution. , 2013, , .		46
47	Guaranteeing Syntactic Correctness for All Product Line Variants: A Language-Independent Approach. Lecture Notes in Business Information Processing, 2009, , 175-194.	1.0	46
48	A model of refactoring physically and virtually separated features. , 2009, , .		46
49	Toward variability-aware testing. , 2012, , .		45
50	Detecting Dependences and Interactions in Feature-Oriented Design. , 2010, , .		43
51	Discipline Matters: Refactoring of Preprocessor Directives in the #ifdef Hell. IEEE Transactions on Software Engineering, 2018, 44, 453-469.	5.6	43
52	An algebraic foundation for automatic feature-based program synthesis. Science of Computer Programming, 2010, 75, 1022-1047.	1.9	41
53	Learning to sample: exploiting similarities across environments to learn performance models for configurable systems. , 2018, , .		40
54	Feature featherweight java. , 2008, , .		39

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55	The road to feature modularity?. , 2011, , .		38
56	Variability-aware parsing in the presence of lexical macros and conditional compilation. ACM SIGPLAN Notices, 2011, 46, 805-824.	0.2	37
57	When It Breaks, It Breaks: How Ecosystem Developers Reason about the Stability of Dependencies. , 2015, , .		37
58	Tradeoffs in modeling performance of highly configurable software systems. Software and Systems Modeling, 2019, 18, 2265-2283.	2.7	33
59	An Algebra for Features and Feature Composition. Lecture Notes in Computer Science, 2008, , 36-50.	1.3	33
60	On the modularity of feature interactions. , 2008, , .		32
61	Variational Data Structures. , 2014, , .		32
62	Feature maintenance with emergent interfaces. , 2014, , .		32
63	A Look into Programmersâ€™ Heads. IEEE Transactions on Software Engineering, 2020, 46, 442-462.	5.6	31
64	Indicators for merge conflicts in the wild: survey and empirical study. Automated Software Engineering, 2018, 25, 279-313.	2.9	30
65	Variability-Aware Static Analysis at Scale. ACM Transactions on Software Engineering and Methodology, 2018, 27, 1-33.	6.0	30
66	Access control in feature-oriented programming. Science of Computer Programming, 2012, 77, 174-187.	1.9	29
67	The PLA model. , 2013, , .		29
68	Tracking load-time configuration options. , 2014, , .		29
69	Collaboration challenges in building ML-enabled systems. , 2022, , .		27
70	<scp>JavAdaptor</scp>â€"Flexible runtime updates of Java applications. Software - Practice and Experience, 2013, 43, 153-185.	3.6	26
71	When and How to Make Breaking Changes. ACM Transactions on Software Engineering and Methodology, 2021, 30, 1-56.	6.0	26
72	Building call graphs for embedded client-side code in dynamic web applications. , 2014, , .		24

#	Article	IF	Citations
73	Research challenges in the tension between features and services. , 2008, , .		23
74	Code clones in feature-oriented software product lines. , 2010, , .		23
75	Cross-language program slicing for dynamic web applications. , 2015, , .		23
76	Tracking Load-Time Configuration Options. IEEE Transactions on Software Engineering, 2018, 44, 1269-1291.	5.6	23
77	Measuring Non-Functional Properties in Software Product Line for Product Derivation. , 2008, , .		22
78	Exploring Software Measures to Assess Program Comprehension. , 2011, , .		21
79	Growing a language environment with editor libraries. , 2011, , .		21
80	White-Box Analysis over Machine Learning: Modeling Performance of Configurable Systems. , 2021, , .		21
81	SugarJ. ACM SIGPLAN Notices, 2011, 46, 391-406.	0.2	20
82	Toward measuring program comprehension with functional magnetic resonance imaging. , 2012, , .		20
83	An investigation of misunderstanding code patterns in C open-source software projects. Empirical Software Engineering, 2019, 24, 1693-1726.	3.9	20
84	Program refactoring using functional aspects. , 2008, , .		19
85	ConfigCrusher: towards white-box performance analysis for configurable systems. Automated Software Engineering, 2020, 27, 265-300.	2.9	19
86	Exploring differences and commonalities between feature flags and configuration options. , 2020, , .		19
87	Comparing program comprehension of physically and virtually separated concerns. , 2012, , .		17
88	Detecting semantic merge conflicts with variability-aware execution. , 2015, , .		17
89	Model-Based Adaptation for Robotics Software. IEEE Software, 2019, 36, 83-90.	1.8	17
90	Towards Unanticipated Runtime Adaptation of Java Applications. , 2008, , .		15

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91	Language-independent reference checking in software product lines. , 2010, , .		15
92	Partial preprocessing C code for variability analysis. , 2011, , .		15
93	JavAdaptor. , 2011, , .		15
94	View infinity. , 2011, , .		14
95	Layout-Sensitive Generalized Parsing. Lecture Notes in Computer Science, 2013, , 244-263.	1.3	14
96	Aspect Refinement â€" Unifying AOP and Stepwise Refinement.. Journal of Object Technology, 2007, 6, 13.	0.9	14
97	How to compare program comprehension in FOSD empirically. , 2009, , .		13
98	Reify your collection queries for modularity and speed!. , 2013, , .		13
99	Inter-app communication in Android. , 2016, , .		13
100	A variability-aware module system. ACM SIGPLAN Notices, 2012, 47, 773-792.	0.2	13
101	Safe composition of non-monotonic features. , 2009, , .		11
102	Visual Support for Understanding Product Lines. , 2010, , .		9
103	Code clones in feature-oriented software product lines. ACM SIGPLAN Notices, 2011, 46, 103-112.	0.2	9
104	On the Necessity of Empirical Studies in the Assessment of Modularization Mechanisms for Crosscutting Concerns. , 2007, , .		8
105	Extracting Configuration Knowledge from Build Files with Symbolic Analysis. , 2015, , .		8
106	Feature (De)composition in Functional Programming. Lecture Notes in Computer Science, 2009, , 9-26.	1.3	8
107	On debugging the performance of configurable software systems. , 2022, , .		8
108	A Case Study Implementing Features Using AspectJ. , 2007, , .		7

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109	Predicting quality attributes of software product lines using software and network measures and sampling. , 2013, , .		7
110	Service Variability Patterns. Lecture Notes in Computer Science, 2011, , 130-140.	1.3	7
111	A model of refactoring physically and virtually separated features. ACM SIGPLAN Notices, 2010, 45, 157-166.	0.2	7
112	SugarJ. , 2011, , .		6
113	The Pervasive Nature of Variability in SOC. , 2011, , .		5
114	Feature-Oriented Software Development. Lecture Notes in Computer Science, 2013, , 346-382.	1.3	5
115	Characterizing complexity of highly-configurable systems with variational call graphs. , 2015, , .		5
116	Revisiting Information Hiding: Reflections on Classical and Nonclassical Modularity. Lecture Notes in Computer Science, 2011, , 155-178.	1.3	5
117	FeatureCommander. , 2011, , .		5
118	Library-based model-driven software development with SugarJ. , 2011, , .		4
119	Intelligently Transparent Software Ecosystems. IEEE Software, 2016, 33, 89-96.	1.8	4
120	On the relation of control-flow and performance feature interactions: a case study. Empirical Software Engineering, 2019, 24, 2410-2437.	3.9	4
121	Safe composition of non-monotonic features. ACM SIGPLAN Notices, 2010, 45, 177-186.	0.2	4
122	Language-Independent Quantification and Weaving for Feature Composition. Lecture Notes in Computer Science, 2009, , 45-54.	1.3	4
123	Varis: IDE Support for Embedded Client Code in PHP Web Applications. , 2015, , .		3
124	Exploring feature interactions without specifications: a controlled experiment. , 2018, , .		3
125	Exploring output-based coverage for testing PHP web applications. Automated Software Engineering, 2019, 26, 59-85.	2.9	3
126	Growing a language environment with editor libraries. ACM SIGPLAN Notices, 2012, 47, 167-176.	0.2	2

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127	Pointcuts, advice, refinements, and collaborations: similarities, differences, and synergies. Innovations in Systems and Software Engineering, 2007, 3, 281-289.	2.1	1
128	An orthogonal access modifier model for feature-oriented programming. , 2009, , .		1
129	Limiting recertification in highly configurable systems. , 2014, , .		1
130	Third International Workshop on Feature-Oriented Software Development (FOSD 2011). , 2011, , .		0
131	Reifying and optimizing collection queries for modularity. , 2012, , .		0