Jan Bosch

List of Publications by Year
in descending order

168 papers	5,274 citations	147726 31 h-index	133188 59 g-index
173 all docs	173 docs citations	173 times ranked	2282 citing authors

#	Article	IF	Citations
1	A taxonomy of variability realization techniques. Software - Practice and Experience, 2005, 35, 705-754.	2.5	240
2	From integration to composition: On the impact of software product lines, global development and ecosystems. Journal of Systems and Software, 2010, 83, 67-76.	3.3	194
3	Architecting for usability: a survey. Journal of Systems and Software, 2004, 70, 61-78.	3.3	181
4	Architecture-level modifiability analysis (ALMA). Journal of Systems and Software, 2004, 69, 129-147.	3.3	169
5	Design erosion: problems and causes. Journal of Systems and Software, 2002, 61, 105-119.	3.3	168
6	Product derivation in software product families: a case study. Journal of Systems and Software, 2005, 74, 173-194.	3.3	168
7	Modeling continuous integration practice differences in industry software development. Journal of Systems and Software, 2014, 87, 48-59.	3.3	164
8	Social Networking Meets Software Development: Perspectives from GitHub, MSDN, Stack Exchange, and TopCoder. IEEE Software, 2013, 30, 52-66.	2.1	157
9	Climbing the &#x0022;Stairway to Heaven&#x0022; -- A Mulitiple-Case Study Exploring Barriers in the Transition from Agile Development towards Continuous Deployment of Software. , 2012, , .		151
10	An overview of Dynamic Software Product Line architectures and techniques: Observations from research and industry. Journal of Systems and Software, 2014, 91, 3-23.	3.3	139
11	Software Engineering Challenges of Deep Learning. , 2018, , .		116
12	User Involvement throughout the Innovation Process in High‐Tech Industries. Journal of Product Innovation Management, 2015, 32, 793-807.	5.2	114
13	A Taxonomy of Software Engineering Challenges for Machine Learning Systems: An Empirical Investigation. Lecture Notes in Business Information Processing, 2019, , 227-243.	0.8	112
14	Investigating Architectural Technical Debt accumulation and refactoring over time: A multiple-case study. Information and Software Technology, 2015, 67, 237-253.	3.0	97
15	The Evolution of Continuous Experimentation in Software Product Development: From Data to a Data-Driven Organization at Scale. , 2017, , .		93
16	Building Products as Innovation Experiment Systems. Lecture Notes in Business Information Processing, 2012, , 27-39.	0.8	86
17	Evolution in software product lines: two cases. Journal of Software: Evolution and Process, 1999, 11, 391-422.	0.5	84
18	Documenting after the fact: Recovering architectural design decisions. Journal of Systems and Software, 2008, 81, 536-557.	3.3	79

#	ARTICLE	IF	CITATIONS
19	Speed, Data, and Ecosystems: The Future of Software Engineering. IEEE Software, 2016, 33, 82-88.	2.1	77
20	From Opinions to Data-Driven Software R&amp;amp;D: A Multi-case Study on How to Close the 'Open Loop' Problem. , 2014, , .		74
21	Software Product Family Evaluation. Lecture Notes in Computer Science, 2004, , 110-129.	1.0	70
22	Large-scale machine learning systems in real-world industrial settings: A review of challenges and solutions. Information and Software Technology, 2020, 127, 106368.	3.0	68
23	Managing architectural technical debt: A unified model and systematic literature review. Journal of Systems and Software, 2018, 135, 1-16.	3.3	66
24	The Danger of Architectural Technical Debt: Contagious Debt and Vicious Circles. , 2015, , .		65
25	Towards DevOps in the Embedded Systems Domain: Why is It So Hard?. , 2016, , .		64
26	Continuous practices and devops: beyond the buzz, what does it all mean?. , 2017, , .		62
27	Customer Feedback and Data Collection Techniques in Software R&D: A Literature Review. Lecture Notes in Business Information Processing, 2015, , 139-153.	0.8	60
28	Engineering AI Systems. Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series, 2021, , 1-19.	0.5	59
29	Experiences with ALMA: Architecture-Level Modifiability Analysis. Journal of Systems and Software, 2002, 61, 47-57.	3.3	58
30	Towards Continuous Customer Validation: A Conceptual Model for Combining Qualitative Customer Feedback with Quantitative Customer Observation. Lecture Notes in Business Information Processing, 2015, , 154-166.	0.8	58
31	Architecture Technical Debt: Understanding Causes and a Qualitative Model. , 2014, , .		55
32	Bridging patterns: An approach to bridge gaps between SE and HCI. Information and Software Technology, 2006, 48, 69-89.	3.0	54
33	Data Management Challenges for Deep Learning. , 2019, , .		53
34	A framework for capturing the relationship between usability and software architecture. Software Process Improvement and Practice, 2003, 8, 67-87.	1.1	52
35	Eternal Embedded Software: Towards Innovation Experiment Systems. Lecture Notes in Computer Science, 2012, , 19-31.	1.0	50
36	Technical Debt tracking: Current state of practice. Science of Computer Programming, 2018, 163, 42-61.	1.5	47

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37	The HYPEX Model: From Opinions to Data-Driven Software Development. , 2014, , 155-164.		44
38	Achieving traceability in large scale continuous integration and delivery deployment, usage and validation of the eiffel framework. Empirical Software Engineering, 2017, 22, 967-995.	3.0	40
39	From Ad-Hoc Data Analytics to DataOps. , 2020, , .		38
40	Towards MLOps: A Framework and Maturity Model. , 2021, , .		38
41	Dynamic Variability in Software-Intensive Embedded System Families. Computer, 2012, 45, 28-35.	1.2	37
42	Architecture for embedded open software ecosystems. Journal of Systems and Software, 2014, 92, 128-142.	3.3	36
43	The Benefits of Controlled Experimentation at Scale. , 2017, , .		35
44	Challenges and Strategies for Undertaking Continuous Experimentation to Embedded Systems: Industry and Research Perspectives. Lecture Notes in Business Information Processing, 2018, , 277-292.	0.8	35
45	A Systematic Literature Review and a Unified Model of ATD. , 2016, , .		34
46	Plays nice with others? Multiple ecosystems, various roles and divergent engagement models. Technology Analysis and Strategic Management, 2015, 27, 960-974.	2.0	32
47	Industry application of continuous integration modeling. , 2016, , .		32
48	Cinders: The continuous integration and delivery architecture framework. Information and Software Technology, 2017, 83, 76-93.	3.0	32
49	Software developer productivity loss due to technical debt—A replication and extension study examining developers' development work. Journal of Systems and Software, 2019, 156, 41-61.	3.3	32
50	Experimentation growth: Evolving trustworthy A/B testing capabilities in online software companies. Journal of Software: Evolution and Process, 2018, 30, e2113.	1.2	31
51	Introducing agile customer-centered development in a legacy software product line. Software - Practice and Experience, 2011, 41, 871-882.	2.5	30
52	The Introduction of Technical Debt Tracking in Large Companies. , 2016, , .		30
53	The Lack of Sharing of Customer Data in Large Software Organizations: Challenges and Implications. Lecture Notes in Business Information Processing, 2016, , 39-52.	0.8	29
54	A Multiple Case Study of Continuous Architecting in Large Agile Companies: Current Gaps and the CAFFEA Framework. , 2016, , .		29

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55	Improving usual care after sudden death in the young with focus on inherited cardiac diseases (the) Tj ETQq1 1 0.784314 rgBT /Overl...	0.7	29
56	Embracing Technical Debt, from a Startup Company Perspective. , 2018, , .		29
57	Speed, Data, and Ecosystems. , 0, , .		29
58	Variability assessment in software product families. Information and Software Technology, 2009, 51, 195-218.	3.0	28
59	Experienced Benefits of Continuous Integration in Industry Software Product Development: A Case Study. , 2013, , .		27
60	Software ecosystems: Taking software development beyond the boundaries of the organization. Journal of Systems and Software, 2012, 85, 1453-1454.	3.3	26
61	Enable more frequent integration of software in industry projects. Journal of Systems and Software, 2018, 142, 223-236.	3.3	26
62	Time to Say 'Good Bye': Feature Lifecycle. , 2016, , .		25
63	The Promise and Challenge of Runtime Variability. Computer, 2011, 44, 93-95.	1.2	24
64	Exploratory Testing of Large-Scale Systems â€" Testing in the Continuous Integration and Delivery Pipeline. Lecture Notes in Computer Science, 2017, , 368-384.	1.0	24
65	Data Labeling: An Empirical Investigation into Industrial Challenges and Mitigation Strategies. Lecture Notes in Computer Science, 2020, , 202-216.	1.0	24
66	Developing ML/DL Models. , 2020, , .		24
67	Achieving Simplicity with the Three-Layer Product Model. Computer, 2013, 46, 34-39.	1.2	23
68	An experiment on creating scenario profiles for software change. Annals of Software Engineering, 2000, 9, 59-78.	0.5	22
69	Toward Compositional Software Product Lines. IEEE Software, 2010, 27, 29-34.	2.1	22
70	Automated software integration flows in industry: a multiple-case study. , 2014, , .		22
71	AI on the Edge: Architectural Alternatives. , 2020, , .		22
72	Excellence in Exploratory Testing: Success Factors in Large-Scale Industry Projects. Lecture Notes in Computer Science, 2019, , 299-314.	1.0	22

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73	The continuity of continuous integration: Correlations and consequences. Journal of Systems and Software, 2017, 127, 150-167.	3.3	21
74	Online Controlled Experimentation at Scale: An Empirical Survey on the Current State of A/B Testing. , 2018, , .		20
75	The influence of Technical Debt on software developer morale. Journal of Systems and Software, 2020, 167, 110586.	3.3	19
76	DevOps for AI â€" Challenges in Development of AI-enabled Applications. , 2020, , .		19
77	Data management for production quality deep learning models: Challenges and solutions. Journal of Systems and Software, 2022, 191, 111359.	3.3	17
78	The changing industry structure of software development for consumer electronics and its consequences for software architectures. Journal of Systems and Software, 2012, 85, 178-192.	3.3	15
79	Towards Customer-Centric Software Development: A Multiple-Case Study. , 2015, , .		15
80	Ecosystem traps and where to find them. Journal of Software: Evolution and Process, 2018, 30, e1961.	1.2	15
81	Going digital: Disruption and transformation in softwareâ€intensive embedded systems ecosystems. Journal of Software: Evolution and Process, 2020, 32, e2249.	1.2	15
82	Digital for real: A multicase study on the digital transformation of companies in the embedded systems domain. Journal of Software: Evolution and Process, 2021, 33, e2333.	1.2	15
83	Your System Gets Better Every Day You Use It: Towards Automated Continuous Experimentation. , 2017, , .		14
84	Multi-armed bandits in the wild: Pitfalls and strategies in online experiments. Information and Software Technology, 2019, 113, 68-81.	3.0	13
85	Service Orientation in the Enterprise. Computer, 2007, 40, 51-56.	1.2	12
86	Data-driven continuous evolution of smart systems. , 2016, , .		12
87	Continuous Integration Impediments in Large-Scale Industry Projects. , 2017, , .		12
88	Climbing the â€œStairway to Heavenâ€: Evolving From Agile Development to Continuous Deployment of Software. , 2014, , 15-27.		12
89	Stability assessment of evolving industrial object-oriented frameworks. Journal of Software: Evolution and Process, 2000, 12, 79-102.	0.5	11
90	Bridging Software Communities through Social Networking. IEEE Software, 2013, 30, 26-28.	2.1	11

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91	Toward Evidence-Based Organizations: Lessons from Embedded Systems, Online Games, and the Internet of Things. IEEE Software, 2017, 34, 60-66.	2.1	10
92	Effective Online Controlled Experiment Analysis at Large Scale. , 2018, , .		10
93	Technical Debt Triage in Backlog Management. , 2019, , .		10
94	On the Experiences of Adopting Automated Data Validation in an Industrial Machine Learning Project. , 2021, , .		10
95	Load Balanced Mapping of Distributed Objects to Minimize Network Communication. Journal of Parallel and Distributed Computing, 1996, 34, 117-136.	2.7	9
96	Strategic Ecosystem Management: A Multi-case Study on Challenges and Strategies for Different Ecosystem Types. , 2015, , .		9
97	A multiple case study on the inter-group interaction speed in large, embedded software companies employing agile. Journal of Software: Evolution and Process, 2016, 28, 4-26.	1.2	9
98	Continuous Integration Applied to Software-Intensive Embedded Systems â€" Problems and Experiences. Lecture Notes in Computer Science, 2016, , 448-457.	1.0	9
99	Continuous Integration and Delivery Traceability in Industry: Needs and Practices. , 2016, , .		8
100	Collaborative Innovation: A Model for Selecting the Optimal Ecosystem Innovation Strategy. , 2016, , .		8
101	From ad hoc to strategic ecosystem management: the â€œThree-Layer Ecosystem Strategy Modelâ€• (TeLESM). Journal of Software: Evolution and Process, 2017, 29, e1876.	1.2	8
102	An Activity and Metric Model for Online Controlled Experiments. Lecture Notes in Computer Science, 2018, , 182-198.	1.0	8
103	Test activities in the continuous integration and delivery pipeline. Journal of Software: Evolution and Process, 2019, 31, e2153.	1.2	8
104	Coordination Between Global Agile Teams: From Process to Architecture. , 2010, , 217-233.		8
105	Software architecture â€" Engineering quality attributes. Journal of Systems and Software, 2003, 66, 183-186.	3.3	7
106	Customer-Specific Teams for Agile Evolution of Large-Scale Embedded Systems. , 2013, , .		7
107	Breaking the Vicious Circle: Why AI for software analytics and business intelligence does not take off in practice. , 2020, , .		7
108	Efficient and effective exploratory testing of large-scale software systems. Journal of Systems and Software, 2021, 174, 110890.	3.3	7

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109	Improving Businesses Success by Managing Interactions among Agile Teams in Large Organizations. Lecture Notes in Business Information Processing, 2013, , 60-72.	0.8	7
110	On Autonomous Dynamic Software Ecosystems. IEEE Transactions on Engineering Management, 2022, 69, 3633-3647.	2.4	7
111	Architectural Technical Debt in Embedded Systems. Incose International Symposium, 2016, 26, 1029-1043.	0.2	6
112	Business as Unusual: A Model for Continuous Real-Time Business Insights Based on Low Level Metrics. , 2019, , .		6
113	Fast and curious: A model for building efficient monitoring- and decision-making frameworks based on quantitative data. Information and Software Technology, 2021, 132, 106458.	3.0	6
114	Role of Architects in Agile Organizations. , 2014, , 39-50.		6
115	Size matters? Or not: A/B testing with limited sample in automotive embedded software. , 2021, , .		6
116	The use of incentives to promote technical debt management. Information and Software Technology, 2022, 142, 106740.	3.0	6
117	Software Ecosystems -- Implications for Strategy, Business Model and Architecture. , 2011, , .		5
118	Towards Agile and Beyond: An Empirical Account on the Challenges Involved When Advancing Software Development Practices. Lecture Notes in Business Information Processing, 2014, , 327-335.	0.8	5
119	Architecture Decisions. , 2014, , 113-136.		5
120	Revealing Social Debt with the CAFFEA Framework: An Antidote to Architectural Debt. , 2017, , .		5
121	Looking for Peace of Mind? Manage Your (Technical) Debt: An Exploratory Field Study. , 2017, , .		5
122	Data Driven Development: Challenges in Online, Embedded and On-Premise Software. Lecture Notes in Computer Science, 2019, , 515-527.	1.0	5
123	Continuous Data-driven Software Engineering - Towards a Research Agenda. Software Engineering Notes: an Informal Newsletter of the Special Interest Committee on Software Engineering / ACM, 2019, 44, 60-64.	0.5	5
124	Breaking the vicious circle: A case study on why AI for software analytics and business intelligence does not take off in practice. Journal of Systems and Software, 2022, 184, 111135.	3.3	5
125	Staged adoption of software product families. Software Process Improvement and Practice, 2005, 10, 125-142.	1.1	4
126	Special issue editorial: Understanding software ecosystems. Information and Software Technology, 2014, 56, 1421-1422.	3.0	4

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127	Impact of Architectural Technical Debt on Daily Software Development Work â€" A Survey of Software Practitioners. , 2017, , .		4
128	Architecting AI Deployment: AÂSystematic Review of State-of-the-Art and State-of-Practice Literature. Lecture Notes in Business Information Processing, 2021, , 14-29.	0.8	4
129	Machine Learning Models for Automatic Labeling: A Systematic Literature Review. , 2020, , .		4
130	Towards an AIâ€driven business development framework: A multiâ€case study. Journal of Software: Evolution and Process, 2023, 35, .	1.2	4
131	Archetypical Approaches of Fast Software Development and Slow Embedded Projects. , 2013, , .		3
132	Scaling Agile Beyond Organizational Boundaries: Coordination Challenges in Software Ecosystems. Lecture Notes in Business Information Processing, 2019, , 189-206.	0.8	3
133	Software Challenges in Heterogeneous Computing: A Multiple Case Study in Industry. , 2019, , .		3
134	Software Logs for Machine Learning in a DevOps Environment. , 2020, , .		3
135	Orchestrate Your Platform: Architectural Challenges for Different Types of Ecosystems for Mobile Devices. Lecture Notes in Business Information Processing, 2014, , 163-178.	0.8	3
136	Experimentation for Business-to-Business Mission-Critical Systems. , 2020, , .		3
137	Leveraging Business Transformation with Machine Learning Experiments. Lecture Notes in Business Information Processing, 2019, , 183-191.	0.8	3
138	Pattern Recognition Method for Detecting Engineering Errors on Technical Drawings. , 2022, , .		3
139	Object acquaintance selection and binding. Theory and Practice of Object Systems, 1998, 4, 151-168.	0.8	2
140	Towards a multi-criteria decision support method for consumer electronics software ecosystems. Journal of Software: Evolution and Process, 2016, 28, 460-482.	1.2	2
141	Singing the Praise of Empowerment: Or Paying the Cost of Chaos. , 2018, , .		2
142	Towards a Digital Business Operating System. , 2019, , .		2
143	Automated Optimization of Software Parameters in a Long Term Evolution Radio Base Station. , 2019, , .		2
144	Introduction to the special issue on software engineering in practice. Software - Practice and Experience, 2019, 49, 151-152.	2.5	2

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145	Engineering Federated Learning Systems: A Literature Review. Lecture Notes in Business Information Processing, 2021, , 210-218.	0.8	2
146	ACE: Easy Deployment of Field Optimization Experiments. Lecture Notes in Computer Science, 2019, , 264-279.	1.0	2
147	Continuous Experimentation for Software Organizations with Low Control of Roadmap and a Large Distance to Users: An Exploratory Case Study. Lecture Notes in Computer Science, 2019, , 528-544.	1.0	2
148	From Efficiency to Effectiveness: Delivering Business Value Through Software. Lecture Notes in Business Information Processing, 2019, , 3-10.	0.8	2
149	AI Deployment Architecture: Multi-Case Study for Key Factor Identification. , 2020, , .		2
150	Controlled Continuous Deployment: A Case Study From The Telecommunications Domain. , 2022, , .		2
151	Towards a new digital business operating system: Speed, data, ecosystems, and empowerment (keynote). , 2018, , .		1
152	How Regulations of Safety-Critical Software Affect Technical Debt. , 2019, , .		1
153	LegacyPro&mdash;A DNA-Inspired Method for Identifying Process Legacies in Software Development Organizations. IEEE Software, 2020, 37, 76-85.	2.1	1
154	An architecture for enabling A/B experiments in automotive embedded software. , 2021, , .		1
155	The HURRIER process for experimentation in business‑to‑business mission‑critical systems. Journal of Software: Evolution and Process, 2023, 35, .	1.2	1
156	Optimization Experiments in the Continuous Space. Lecture Notes in Computer Science, 2018, , 293-308.	1.0	1
157	The MaLET Model â€" Maturity Levels for Exploratory Testing. , 2021, , .		1
158	Bayesian propensity score matching in automotive embedded software engineering. , 2021, , .		1
159	Software variability: process and management. Software Process Improvement and Practice, 2005, 10, 3-5.	1.1	0
160	Achieving Speed in Legacy Systems. , 2011, , .		0
161	Architecting to Ensure Requirement Relevance: Keynote TwinPeaks Workshop. , 2015, , .		0
162	Accelerating Change in the Nordic Software Intensive Industry: Keynote Software Engineering Research and Industrial Practice Workshop. , 2015, , .		0

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163	Tutorial summary for speed, data and ecosystems: The future of software engineering. , 2016, , .		0
164	Cinders. , 2018, , .		0
165	Autonomously Improving Systems in Industry: A Systematic Literature Review. Lecture Notes in Business Information Processing, 2021, , 30-45.	0.8	0
166	An Empirical Evaluation of Algorithms for Data Labeling. , 2021, , .		0
167	The Five Purposes of Value Modeling. , 2020, , .		0
168	Principles for Re-architecting Software for Heterogeneous Platforms. , 2020, , .		0