

# Joao Marques-Silva

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

148  
papers

2,755  
citations

25  
h-index

47  
g-index

153  
ext. papers

3,096  
ext. citations

1  
avg, IF

5.54  
L-index

#	Paper	IF	Citations
148	GRASP: a search algorithm for propositional satisfiability. <i>IEEE Transactions on Computers</i> , <b>1999</b> , 48, 506-521	5.21	698
147	SMT-Based Bounded Model Checking for Embedded ANSI-C Software. <i>IEEE Transactions on Software Engineering</i> , <b>2012</b> , 38, 957-974	3.5	88
146	Iterative and core-guided MaxSAT solving: A survey and assessment. <i>Constraints</i> , <b>2013</b> , 18, 478-534	0.3	85
145	Algorithms for Weighted Boolean Optimization. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 495-508	0.9	64
144	Solving QBF with Counterexample Guided Refinement. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 114-128	0.9	63
143	Towards efficient MUS extraction. <i>AI Communications</i> , <b>2012</b> , 25, 97-116	0.8	56
142	Fast, flexible MUS enumeration. <i>Constraints</i> , <b>2016</b> , 21, 223-250	0.3	55
141	Automated Design Debugging With Maximum Satisfiability. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , <b>2010</b> , 29, 1804-1817	2.5	54
140	Solving QBF with counterexample guided refinement. <i>Artificial Intelligence</i> , <b>2016</b> , 234, 1-25	3.6	52
139	Expansion-based QBF solving versus Q-resolution. <i>Theoretical Computer Science</i> , <b>2015</b> , 577, 25-42	1.1	48
138	Practical applications of Boolean Satisfiability <b>2008</b> ,		47
137	SMT-Based Bounded Model Checking for Embedded ANSI-C Software <b>2009</b> ,		44
136	PySAT: A Python Toolkit for Prototyping with SAT Oracles. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 428-437	4.37	39
135	Boolean lexicographic optimization: algorithms & applications. <i>Annals of Mathematics and Artificial Intelligence</i> , <b>2011</b> , 62, 317-343	0.8	39
134	Algorithms for maximum satisfiability using unsatisfiable cores <b>2008</b> ,		31
133	Minimal Sets over Monotone Predicates in Boolean Formulae. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 592-607	0.9	31
132	On Improving MUS Extraction Algorithms. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 159-173	0.9	30

131	SAT in Bioinformatics: Making the Case with Haplotype Inference. <i>Lecture Notes in Computer Science</i> , <b>2006</b> , 136-141	0.9	30
130	Abstraction-Based Algorithm for 2QBF. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 230-244	0.9	29
129	Minimal Unsatisfiability: Models, Algorithms and Applications (Invited Paper) <b>2010</b> ,		28
128	A branch and bound algorithm for extracting smallest minimal unsatisfiable subformulas. <i>Constraints</i> , <b>2009</b> , 14, 415-442	0.3	28
127	Core-Guided MaxSAT with Soft Cardinality Constraints. <i>Lecture Notes in Computer Science</i> , <b>2014</b> , 564-573	0.9	28
126	Abduction-Based Explanations for Machine Learning Models. <i>Proceedings of the AAAI Conference on Artificial Intelligence</i> , <b>2019</b> , 33, 1511-1519	5	28
125	Empirical Study of the Anatomy of Modern Sat Solvers. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 343-356	0.9	26
124	Using Randomization and Learning to Solve Hard Real-World Instances of Satisfiability. <i>Lecture Notes in Computer Science</i> , <b>2000</b> , 489-494	0.9	26
123	Semiformal Verification of Embedded Software in Medical Devices Considering Stringent Hardware Constraints <b>2009</b> ,		25
122	A Branch-and-Bound Algorithm for Extracting Smallest Minimal Unsatisfiable Formulas. <i>Lecture Notes in Computer Science</i> , <b>2005</b> , 467-474	0.9	25
121	Towards Robust CNF Encodings of Cardinality Constraints <b>2007</b> , 483-497		24
120	Smallest MUS Extraction with Minimal Hitting Set Dualization. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 173-182	0.9	23
119	Improvements to Core-Guided Binary Search for MaxSAT. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 284-293		22
118	Towards Equivalence Checking Between TLM and RTL Models <b>2007</b> ,		22
117	Categorisation of Clauses in Conjunctive Normal Forms: Minimally Unsatisfiable Sub-clause-sets and the Lean Kernel. <i>Lecture Notes in Computer Science</i> , <b>2006</b> , 22-35	0.9	22
116	Algorithms for computing backbones of propositional formulae. <i>AI Communications</i> , <b>2015</b> , 28, 161-177	0.8	21
115	Solving Linux Upgradeability Problems Using Boolean Optimization. <i>Electronic Proceedings in Theoretical Computer Science</i> , <i>EPTCS</i> , 29, 11-22		21
114	Search pruning techniques in SAT-based branch-and-bound algorithms for the binate covering problem. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , <b>2002</b> , 21, 505-516	2.5	20

113	Satisfiability models and algorithms for circuit delay computation. <i>ACM Transactions on Design Automation of Electronic Systems</i> , <b>2002</b> , 7, 137-158	1.5	19
112	Efficient Certified Resolution Proof Checking. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 118-135	0.9	18
111	Towards More Effective Unsatisfiability-Based Maximum Satisfiability Algorithms <b>2008</b> , 225-230		18
110	Learning Optimal Decision Trees with SAT <b>2018</b> ,		18
109	Industrial-Strength Certified SAT Solving through Verified SAT Proof Checking. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 260-274	0.9	18
108	Algorithms for Maximum Satisfiability using Unsatisfiable Cores <b>2008</b> ,		17
107	Efficient Haplotype Inference with Pseudo-boolean Optimization. <i>Lecture Notes in Computer Science</i> , <b>2007</b> , 125-139	0.9	17
106	MaxSAT-Based MCS Enumeration. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 86-101	0.9	16
105	HAPLOTYPE INFERENCE WITH BOOLEAN SATISFIABILITY. <i>International Journal on Artificial Intelligence Tools</i> , <b>2008</b> , 17, 355-387	0.9	15
104	On QBF Proofs and Preprocessing. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 473-489	0.9	15
103	On Propositional QBF Expansions and Q-Resolution. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 67-82	0.9	14
102	Efficient MUS Enumeration of Horn Formulae with Applications to Axiom Pinpointing. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 324-342	0.9	13
101	On the query complexity of selecting minimal sets for monotone predicates. <i>Artificial Intelligence</i> , <b>2016</b> , 233, 73-83	3.6	13
100	A SAT-Based Approach to Learn Explainable Decision Sets. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 627-645		13
99	Towards efficient optimization in package management systems <b>2014</b> ,		13
98	Minimal sets on propositional formulae. Problems and reductions. <i>Artificial Intelligence</i> , <b>2017</b> , 252, 22-50, 6	3.6	13
97	Interpolant Learning and Reuse in SAT-Based Model Checking. <i>Electronic Notes in Theoretical Computer Science</i> , <b>2007</b> , 174, 31-43	0.7	13
96	Effective lower bounding techniques for pseudo-Boolean optimization [EDA applications]		13

95	Spatial and temporal design debug using partial MaxSAT <b>2009</b> ,		13
94	Stochastic Systematic Search Algorithms for Satisfiability. <i>Electronic Notes in Discrete Mathematics</i> , <b>2001</b> , 9, 190-204	0.3	12
93	Knowledge Compilation with Empowerment. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 612-624	0.9	12
92	Synthesizing Safe Bit-Precise Invariants. <i>Lecture Notes in Computer Science</i> , <b>2014</b> , 93-108	0.9	12
91	Optimum stable model search: algorithms and implementation. <i>Journal of Logic and Computation</i> , <b>2020</b> , 30, 863-897	0.4	12
90	Improvements to the Implementation of Interpolant-Based Model Checking. <i>Lecture Notes in Computer Science</i> , <b>2005</b> , 367-370	0.9	12
89	Algebraic Simplification Techniques for Propositional Satisfiability. <i>Lecture Notes in Computer Science</i> , <b>2000</b> , 537-542	0.9	12
88	Assessing Heuristic Machine Learning Explanations with Model Counting. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 267-278	0.9	11
87	Boosting Haplotype Inference with Local Search. <i>Constraints</i> , <b>2008</b> , 13, 155-179	0.3	11
86	SAT-Based Preprocessing for MaxSAT. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 96-111	0.9	11
85	MCS Extraction with Sublinear Oracle Queries. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 342-360	0.9	10
84	An Overview of Backtrack Search Satisfiability Algorithms. <i>Annals of Mathematics and Artificial Intelligence</i> , <b>2003</b> , 37, 307-326	0.8	10
83	MUS Extraction Using Clausal Proofs. <i>Lecture Notes in Computer Science</i> , <b>2014</b> , 48-57	0.9	10
82	On Tackling the Limits of Resolution in SAT Solving. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 164-183	0.9	10
81	Formula Preprocessing in MUS Extraction. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 108-123	0.9	10
80	A Two-Variable Model for SAT-Based ATPG. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , <b>2013</b> , 32, 1943-1956	2.5	9
79	Haplotype inference by Pure Parsimony: a survey. <i>Journal of Computational Biology</i> , <b>2010</b> , 17, 969-92	1.7	9
78	On Computing Minimal Equivalent Subformulas. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 158-174	0.9	9

77	Formally Verifying the Solution to the Boolean Pythagorean Triples Problem. <i>Journal of Automated Reasoning</i> , <b>2019</b> , 63, 695-722	1	8
76	Iterative SAT Solving for Minimum Satisfiability <b>2012</b> ,		8
75	Efficient Axiom Pinpointing with EL2MCS. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 225-233	0.9	8
74	Quantified maximum satisfiability. <i>Constraints</i> , <b>2016</b> , 21, 277-302	0.3	7
73	Quantified Maximum Satisfiability:. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 250-266	0.9	7
72	Algorithms for computing minimal equivalent subformulas. <i>Artificial Intelligence</i> , <b>2014</b> , 216, 309-326	3.6	7
71	Haplotype inference with pseudo-Boolean optimization. <i>Annals of Operations Research</i> , <b>2011</b> , 184, 137-152	1.2	7
70	Efficient data structures for backtrack search SAT solvers. <i>Annals of Mathematics and Artificial Intelligence</i> , <b>2005</b> , 43, 137-152	0.8	7
69	Computing Maximal Autarkies with Few and Simple Oracle Queries. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 138-155	0.9	7
68	Lean Kernels in Description Logics. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 518-533	0.9	7
67	How to Complete an Interactive Configuration Process?. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 528-539	0.9	7
66	Propositional SAT Solving <b>2018</b> , 247-275		7
65	MaxSAT-based encodings for Group MaxSAT. <i>AI Communications</i> , <b>2015</b> , 28, 195-214	0.8	6
64	SAT-Based Formula Simplification. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 287-298	0.9	6
63	Core minimization in SAT-based abstraction <b>2013</b> ,		6
62	Improving MCS Enumeration via Caching. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 184-194	0.9	6
61	Continuous Verification of Large Embedded Software Using SMT-Based Bounded Model Checking <b>2010</b> ,		6
60	TG-PRO: A new model for SAT-based ATPG <b>2009</b> ,		6

59	Solving satisfiability in combinational circuits. <i>IEEE Design and Test of Computers</i> , <b>2003</b> , 20, 16-21		6
58	Efficient Haplotype Inference with Combined CP and OR Techniques <b>2008</b> , 308-312		6
57	A Lazy Unbounded Model Checker for Event-B. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 485-503	0.9	6
56	On Deciding MUS Membership with QBF. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 414-428	0.9	6
55	Efficient and Accurate Haplotype Inference by Combining Parsimony and Pedigree Information. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 38-56	0.9	6
54	Counterexample Guided Abstraction Refinement Algorithm for Propositional Circumscription. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 195-207	0.9	6
53	From Contrastive to Abductive Explanations and Back Again. <i>Lecture Notes in Computer Science</i> , <b>2021</b> , 335-355	0.9	6
52	Counting Models in Integer Domains. <i>Lecture Notes in Computer Science</i> , <b>2006</b> , 410-423	0.9	6
51	On Computing the Union of MUSes. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 211-221	0.9	5
50	Maximal Falsifiability. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 439-456	0.9	5
49	Efficient Relaxations of Over-constrained CSPs <b>2014</b> ,		5
48	Model-Guided Approaches for MaxSAT Solving <b>2013</b> ,		5
47	Good learning and implicit model enumeration <b>2005</b> ,		5
46	Towards Formal Fairness in Machine Learning. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 846-867	0.9	5
45	The Effect of Nogood Recording in DPLL-CBJ SAT Algorithms. <i>Lecture Notes in Computer Science</i> , <b>2003</b> , 144-158	0.9	5
44	Efficient Reasoning for Inconsistent Horn Formulae. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 336-352	0.9	4
43	On Reducing Maximum Independent Set to Minimum Satisfiability. <i>Lecture Notes in Computer Science</i> , <b>2014</b> , 103-120	0.9	4
42	TG-Pro: A SAT-based ATPG System. <i>Journal of Satisfiability, Boolean Modeling and Computation</i> , <b>2012</b> , 8, 83-88	1.2	4

41	Combinatorial Optimization Solutions for the Maximum Quartet Consistency Problem. <i>Fundamenta Informaticae</i> , <b>2010</b> , 102, 363-389	1	4
40	Random backtracking in backtrack search algorithms for satisfiability. <i>Discrete Applied Mathematics</i> , <b>2007</b> , 155, 1604-1612	1	4
39	On Computing Preferred MUSes and MCSes. <i>Lecture Notes in Computer Science</i> , <b>2014</b> , 58-74	0.9	4
38	Improvements to Hybrid Incremental SAT Algorithms <b>2008</b> , 168-181		4
37	Minimally Unsatisfiable Boolean Circuits. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 145-158	0.9	4
36	Efficient Symmetry Breaking for SAT-Based Minimum DFA Inference. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 159-173	0.9	3
35	Efficient and Tight Upper Bounds for Haplotype Inference by Pure Parsimony Using Delayed Haplotype Selection <b>2007</b> , 621-632		3
34	Model-Based Diagnosis with Multiple Observations <b>2019</b> ,		3
33	Symmetry Breaking for Maximum Satisfiability. <i>Lecture Notes in Computer Science</i> , <b>2008</b> , 1-15	0.9	3
32	An Empirical Study of Encodings for Group MaxSAT. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 85-96	0.9	3
31	On Efficient Computation of Variable MUSes. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 298-311	0.9	3
30	Lower Bounds and Upper Bounds for MaxSAT. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 402-407	0.9	3
29	cmMUS: A Tool for Circumscription-Based MUS Membership Testing. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 266-271	0.9	3
28	SAT-Based Rigorous Explanations for Decision Lists. <i>Lecture Notes in Computer Science</i> , <b>2021</b> , 251-269	0.9	3
27	Towards Provably Complete Stochastic Search Algorithms for Satisfiability. <i>Lecture Notes in Computer Science</i> , <b>2001</b> , 363-370	0.9	3
26	Maximal falsifiability. <i>AI Communications</i> , <b>2016</b> , 29, 351-370	0.8	2
25	DRMaxSAT with MaxHS: First Contact. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 239-249	0.9	2
24	Improvements to satisfiability-based boolean function bi-decomposition <b>2011</b> ,		2



23	On Validating Boolean Optimizers <b>2011</b> ,		2
22	Haplotype Inference with Boolean Constraint Solving: An Overview <b>2008</b> ,		2
21	Model checking with Boolean Satisfiability. <i>Journal of Algorithms</i> , <b>2008</b> , 63, 3-16		2
20	Integration of lower bound estimates in pseudo-Boolean optimization		2
19	On Applying Cutting Planes in DLL-Based Algorithms for Pseudo-Boolean Optimization. <i>Lecture Notes in Computer Science</i> , <b>2005</b> , 451-458	0.9	2
18	Heuristic-Based Backtracking Relaxation for Propositional Satisfiability. <i>Journal of Automated Reasoning</i> , <b>2005</b> , 35, 3-24	1	2
17	Satisfiability-based algorithms for pseudo-Boolean optimization using Gomory cuts and search restarts <b>2005</b> ,		2
16	Ravel-XL: a hardware accelerator for assigned-delay compiled-code logic gate simulation. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , <b>1996</b> , 4, 113-129	2.6	2
15	Reasoning About Strong Inconsistency in ASP. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 332-342	0.9	2
14	Breaking Symmetries in SAT Matrix Models <b>2007</b> , 22-27		2
13	Horn Maximum Satisfiability: Reductions, Algorithms and Applications. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 681-694	0.9	2
12	Improvements to Satisfiability-Based Boolean Function Bi-Decomposition. <i>International Federation for Information Processing</i> , <b>2012</b> , 52-72		2
11	Solving QBF with Free Variables. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 415-431	0.9	2
10	Parallel MUS Extraction. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 133-149	0.9	2
9	Computing with SAT Oracles: Past, Present and Future. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 264-276	0.9	1
8	HYBRID INCREMENTAL ALGORITHMS FOR BOOLEAN SATISFIABILITY. <i>International Journal on Artificial Intelligence Tools</i> , <b>2012</b> , 21, 1250025	0.9	1
7	Restoring CSP Satisfiability with MaxSAT. <i>Fundamenta Informaticae</i> , <b>2011</b> , 107, 249-266	1	1
6	Computing Shortest Resolution Proofs. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 539-551	0.9	1

- 5 Propositional proof systems based on maximum satisfiability. *Artificial Intelligence*, **2021**, 300, 103552 3.6 1
- 4 Haplotype Inference Using Propositional Satisfiability **2011**, 127-147 1
- 3 SAT-Based Horn Least Upper Bounds. *Lecture Notes in Computer Science*, **2015**, 423-433 0.9
- 2 Efficient data structures for backtrack search SAT solvers. *Annals of Mathematics and Artificial Intelligence*, **2005**, 43, 137-152 0.8
- 1 Assessing Progress in SAT Solvers Through the Lens of Incremental SAT. *Lecture Notes in Computer Science*, **2021**, 280-298 0.9