

# Marta Kwiatkowska

## List of Publications by Year in descending order

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136  
papers

7,292  
citations

117571

34  
h-index

71651

76  
g-index

143  
all docs

143  
docs citations

143  
times ranked

3114  
citing authors

#	ARTICLE	IF	CITATIONS
1	PRISM 4.0: Verification of Probabilistic Real-Time Systems. Lecture Notes in Computer Science, 2011, , 585-591.	1.0	1,371
2	Stochastic Model Checking. , 2007, , 220-270.		352
3	Dynamic QoS Management and Optimization in Service-Based Systems. IEEE Transactions on Software Engineering, 2011, 37, 387-409.	4.3	290
4	Automatic verification of real-time systems with discrete probability distributions. Theoretical Computer Science, 2002, 282, 101-150.	0.5	254
5	Probabilistic symbolic model checking with PRISM: a hybrid approach. International Journal on Software Tools for Technology Transfer, 2004, 6, 128-142.	1.7	244
6	Self-adaptive software needs quantitative verification at runtime. Communications of the ACM, 2012, 55, 69-77.	3.3	238
7	Automated Verification Techniques for Probabilistic Systems. Lecture Notes in Computer Science, 2011, , 53-113.	1.0	176
8	Model checking for a probabilistic branching time logic with fairness. Distributed Computing, 1998, 11, 125-155.	0.7	151
9	Numerical vs. statistical probabilistic model checking. International Journal on Software Tools for Technology Transfer, 2006, 8, 216-228.	1.7	148
10	Guiding the folding pathway of DNA origami. Nature, 2015, 525, 82-86.	13.7	146
11	Performance analysis of probabilistic timed automata using digital clocks. Formal Methods in System Design, 2006, 29, 33-78.	0.9	138
12	Probabilistic model checking of complex biological pathways. Theoretical Computer Science, 2008, 391, 239-257.	0.5	136
13	Current State and Future Directions of Technology-Based Ecological Momentary Assessment and Intervention for Major Depressive Disorder: A Systematic Review. Journal of Clinical Medicine, 2019, 8, 465.	1.0	112
14	Symbolic model checking for probabilistic timed automata. Information and Computation, 2007, 205, 1027-1077.	0.5	111
15	Verification of Markov Decision Processes Using Learning Algorithms. Lecture Notes in Computer Science, 2014, , 98-114.	1.0	105
16	Automatic verification of competitive stochastic systems. Formal Methods in System Design, 2013, 43, 61-92.	0.9	87
17	Symbolic model checking for probabilistic processes. Lecture Notes in Computer Science, 1997, , 430-440.	1.0	84
18	A formal analysis of bluetooth device discovery. International Journal on Software Tools for Technology Transfer, 2006, 8, 621-632.	1.7	79

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19	Quantitative Analysis With the Probabilistic Model Checker PRISM. Electronic Notes in Theoretical Computer Science, 2006, 153, 5-31.	0.9	76
20	A game-based abstraction-refinement framework for Markov decision processes. Formal Methods in System Design, 2010, 36, 246-280.	0.9	75
21	Assume-Guarantee Verification for Probabilistic Systems. Lecture Notes in Computer Science, 2010, , 23-37.	1.0	75
22	PRISM-games: A Model Checker for Stochastic Multi-Player Games. Lecture Notes in Computer Science, 2013, , 185-191.	1.0	75
23	Using quantitative analysis to implement autonomic IT systems. , 2009, , .		71
24	Design and analysis of DNA strand displacement devices using probabilistic model checking. Journal of the Royal Society Interface, 2012, 9, 1470-1485.	1.5	68
25	Quantitative Multi-objective Verification for Probabilistic Systems. Lecture Notes in Computer Science, 2011, , 112-127.	1.0	67
26	Probabilistic Model Checking of Deadline Properties in the IEEE 1394 FireWire Root Contention Protocol. Formal Aspects of Computing, 2003, 14, 295-318.	1.4	66
27	Multi-Objective Model Checking of Markov Decision Processes. Logical Methods in Computer Science, 0, Volume 4, Issue 4, .	0.4	66
28	Pareto Curves for Probabilistic Model Checking. Lecture Notes in Computer Science, 2012, , 317-332.	1.0	59
29	Model Checking Probabilistic Systems. , 2018, , 963-999.		56
30	Quantitative verification. , 2007, , .		51
31	Using probabilistic model checking for dynamic power management. Formal Aspects of Computing, 2005, 17, 160-176.	1.4	50
32	Model Repair for Markov Decision Processes. , 2013, , .		50
33	Probabilistic model checking in practice. Performance Evaluation Review, 2005, 32, 16-21.	0.4	49
34	Precise parameter synthesis for stochastic biochemical systems. Acta Informatica, 2017, 54, 589-623.	0.5	48
35	Global Robustness Evaluation of Deep Neural Networks with Provable Guarantees for the Hamming Distance. , 2019, , .		47
36	Incremental quantitative verification for Markov decision processes. , 2011, , .		44

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37	Stochastic analysis of Chemical Reaction Networks using Linear Noise Approximation. <i>BioSystems</i> , 2016, 149, 26-33.	0.9	44
38	Efficient synthesis of robust models for stochastic systems. <i>Journal of Systems and Software</i> , 2018, 143, 140-158.	3.3	40
39	Stochastic Games for Verification of Probabilistic Timed Automata. <i>Lecture Notes in Computer Science</i> , 2009, , 212-227.	1.0	40
40	Automated Verification and Strategy Synthesis for Probabilistic Systems. <i>Lecture Notes in Computer Science</i> , 2013, , 5-22.	1.0	39
41	Probabilistic verification of Herman's self-stabilisation algorithm. <i>Formal Aspects of Computing</i> , 2012, 24, 661-670.	1.4	36
42	On Stochastic Games with Multiple Objectives. <i>Lecture Notes in Computer Science</i> , 2013, , 266-277.	1.0	36
43	PRISM-games: verification and strategy synthesis for stochastic multi-player games with multiple objectives. <i>International Journal on Software Tools for Technology Transfer</i> , 2018, 20, 195-210.	1.7	34
44	PRISM-games 3.0: Stochastic Game Verification with Concurrency, Equilibria and Time. <i>Lecture Notes in Computer Science</i> , 2020, , 475-487.	1.0	34
45	On software verification for sensor nodes. <i>Journal of Systems and Software</i> , 2011, 84, 1693-1707.	3.3	33
46	Quantitative verification and strategy synthesis for stochastic games. <i>European Journal of Control</i> , 2016, 30, 15-30.	1.6	31
47	Precise Parameter Synthesis for Stochastic Biochemical Systems. <i>Lecture Notes in Computer Science</i> , 2014, , 86-98.	1.0	31
48	Compositional probabilistic verification through multi-objective model checking. <i>Information and Computation</i> , 2013, 232, 38-65.	0.5	30
49	PID Control of Biochemical Reaction Networks. <i>IEEE Transactions on Automatic Control</i> , 2022, 67, 1023-1030.	3.6	30
50	A Compositional Specification Theory for Component Behaviours. <i>Lecture Notes in Computer Science</i> , 2012, , 148-168.	1.0	30
51	Modelling DNA origami self-assembly at the domain level. <i>Journal of Chemical Physics</i> , 2015, 143, 165102.	1.2	28
52	Domain equations for probabilistic processes. <i>Mathematical Structures in Computer Science</i> , 2000, 10, 665-717.	0.5	27
53	Compositional Verification of Probabilistic Systems Using Learning. , 2010, , .		27
54	Probabilistic Model Checking: Advances and Applications. , 2018, , 73-121.		27

#	ARTICLE	IF	CITATIONS
55	DNA walker circuits: computational potential, design, and verification. <i>Natural Computing</i> , 2015, 14, 195-211.	1.8	26
56	Stochastic Transition Systems for Continuous State Spaces and Non-determinism. <i>Lecture Notes in Computer Science</i> , 2005, , 125-139.	1.0	26
57	DNA Walker Circuits: Computational Potential, Design, and Verification. <i>Lecture Notes in Computer Science</i> , 2013, , 31-45.	1.0	25
58	Efficiency through uncertainty. , 2019, , .		24
59	Synthesis and Verification of Self-aware Computing Systems. , 2017, , 337-373.		23
60	Designing Robust Software Systems through Parametric Markov Chain Synthesis. , 2017, , .		22
61	Molecular Filters for Noise Reduction. <i>Biophysical Journal</i> , 2018, 114, 3000-3011.	0.2	22
62	Uncertainty Quantification with Statistical Guarantees in End-to-End Autonomous Driving Control. , 2020, , .		22
63	Software Engineering Techniques for the Development of Systems of Systems. <i>Lecture Notes in Computer Science</i> , 2010, , 59-82.	1.0	21
64	CADS*: Computer-Aided Development of Self-* Systems. <i>Lecture Notes in Computer Science</i> , 2009, , 421-424.	1.0	21
65	Incremental Runtime Verification of Probabilistic Systems. <i>Lecture Notes in Computer Science</i> , 2013, , 314-319.	1.0	21
66	Quantitative Verification of Implantable Cardiac Pacemakers. , 2012, , .		20
67	Resource-Performance Tradeoff Analysis for Mobile Robots. <i>IEEE Robotics and Automation Letters</i> , 2018, 3, 1840-1847.	3.3	20
68	Chemical reaction network designs for asynchronous logic circuits. <i>Natural Computing</i> , 2018, 17, 109-130.	1.8	20
69	Automated Learning of Probabilistic Assumptions for Compositional Reasoning. <i>Lecture Notes in Computer Science</i> , 2011, , 2-17.	1.0	20
70	Time-Bounded Verification of CTMCs against Real-Time Specifications. <i>Lecture Notes in Computer Science</i> , 2011, , 26-42.	1.0	19
71	Strategy Synthesis for Stochastic Games with Multiple Long-Run Objectives. <i>Lecture Notes in Computer Science</i> , 2015, , 256-271.	1.0	19
72	On Topological Hierarchies of Temporal Properties. <i>Fundamenta Informaticae</i> , 2000, 41, 259-294.	0.3	18

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73	Invariant Verification of Nonlinear Hybrid Automata Networks of Cardiac Cells. Lecture Notes in Computer Science, 2014, , 373-390.	1.0	18
74	Verifying Team Formation Protocols with Probabilistic Model Checking. Lecture Notes in Computer Science, 2011, , 190-207.	1.0	18
75	Automatic Verification of Competitive Stochastic Systems. Lecture Notes in Computer Science, 2012, , 315-330.	1.0	17
76	Syntax-Guided Optimal Synthesis for Chemical Reaction Networks. Lecture Notes in Computer Science, 2017, , 375-395.	1.0	16
77	Current state and future directions of technology-based ecological momentary assessments and interventions for major depressive disorder: protocol for a systematic review. Systematic Reviews, 2018, 7, 233.	2.5	16
78	Formal and Efficient Synthesis for Continuous-Time Linear Stochastic Hybrid Processes. IEEE Transactions on Automatic Control, 2021, 66, 17-32.	3.6	16
79	Adaptive Aggregation of Markov Chains: Quantitative Analysis of Chemical Reaction Networks. Lecture Notes in Computer Science, 2015, , 195-213.	1.0	16
80	When Your Fitness Tracker Betrays You: Quantifying the Predictability of Biometric Features Across Contexts. , 2018, , .		15
81	Probabilistic Model Checking of Labelled Markov Processes via Finite Approximate Bisimulations. Lecture Notes in Computer Science, 2014, , 40-58.	1.0	15
82	A Stochastic Hybrid Approximation for Chemical Kinetics Based on the Linear Noise Approximation. Lecture Notes in Computer Science, 2016, , 147-167.	1.0	14
83	Compositional Controller Synthesis for Stochastic Games. Lecture Notes in Computer Science, 2014, , 173-187.	1.0	14
84	A simulink hybrid heart model for quantitative verification of cardiac pacemakers. , 2013, , .		13
85	Formal Modelling and Validation of Rate-Adaptive Pacemakers. , 2014, , .		13
86	Programming discrete distributions with chemical reaction networks. Natural Computing, 2018, 17, 131-145.	1.8	13
87	Reasoning about Cognitive Trust in Stochastic Multiagent Systems. ACM Transactions on Computational Logic, 2019, 20, 1-64.	0.7	13
88	Equilibria-Based Probabilistic Model Checking for Concurrent Stochastic Games. Lecture Notes in Computer Science, 2019, , 298-315.	1.0	13
89	Concavely-Priced Probabilistic Timed Automata. Lecture Notes in Computer Science, 2009, , 415-430.	1.0	13
90	Probabilistic Strategy Logic. , 2019, , .		12

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91	Automatic verification of concurrent stochastic systems. Formal Methods in System Design, 2021, 58, 188-250.	0.9	11
92	Automated Verification of Concurrent Stochastic Games. Lecture Notes in Computer Science, 2018, , 223-239.	1.0	11
93	Robustness Guarantees for Deep Neural Networks on Videos. , 2020, , .		10
94	Stochastic Analysis of Chemical Reaction Networks Using Linear Noise Approximation. Lecture Notes in Computer Science, 2015, , 64-76.	1.0	10
95	Probabilistic Model Checking and Autonomy. Annual Review of Control, Robotics, and Autonomous Systems, 2022, 5, 385-410.	7.5	10
96	Reachability Computation for Switching Diffusions. , 2017, , .		9
97	Gaze-based Intention Anticipation over Driving Manoeuvres in Semi-Autonomous Vehicles. , 2019, , .		9
98	Establishing a Framework for Dynamic Risk Management in "Intelligent" Aero-Engine Control. Lecture Notes in Computer Science, 2009, , 326-341.	1.0	9
99	Programming Discrete Distributions with Chemical Reaction Networks. Lecture Notes in Computer Science, 2016, , 35-51.	1.0	8
100	Verification and Control of Turn-Based Probabilistic Real-Time Games. Lecture Notes in Computer Science, 2019, , 379-396.	1.0	8
101	On Quantitative Modelling and Verification of DNA Walker Circuits Using Stochastic Petri Nets. Lecture Notes in Computer Science, 2015, , 1-32.	1.0	8
102	Strategic Analysis of Trust Models for User-Centric Networks. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 112, 53-59.	0.8	8
103	Partial Order Reduction for Model Checking Markov Decision Processes under Unconditional Fairness. , 2011, , .		7
104	Expected reachability-time games. Theoretical Computer Science, 2016, 631, 139-160.	0.5	7
105	Chemical Reaction Network Designs for Asynchronous Logic Circuits. Lecture Notes in Computer Science, 2016, , 67-81.	1.0	7
106	Rational verification: game-theoretic verification of multi-agent systems. Applied Intelligence, 2021, 51, 6569-6584.	3.3	7
107	Multi-player Equilibria Verification for Concurrent Stochastic Games. Lecture Notes in Computer Science, 2020, , 74-95.	1.0	7
108	Revisiting Timed Specification Theories: A Linear-Time Perspective. Lecture Notes in Computer Science, 2012, , 75-90.	1.0	7

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109	Assume-Guarantee Reasoning for Safe Component Behaviours. Lecture Notes in Computer Science, 2013, , 92-109.	1.0	7
110	Expected Reachability-Time Games. Lecture Notes in Computer Science, 2010, , 122-136.	1.0	6
111	Static Program Analysis for Identifying Energy Bugs in Graphics-Intensive Mobile Apps. , 2016, , .		6
112	Symbolic optimal expected time reachability computation and controller synthesis for probabilistic timed automata. Theoretical Computer Science, 2017, 669, 1-21.	0.5	6
113	Central Limit Model Checking. ACM Transactions on Computational Logic, 2019, 20, 1-35.	0.7	6
114	Closed-Loop Quantitative Verification of Rate-Adaptive Pacemakers. ACM Transactions on Cyber-Physical Systems, 2018, 2, 1-31.	1.9	6
115	Bug-Free Sensors: The Automatic Verification of Context-Aware TinyOS Applications. Lecture Notes in Computer Science, 2009, , 101-105.	1.0	6
116	Automatic energy-aware performance analysis of Mobile Ad-Hoc Networks. , 2012, , .		5
117	From software verification to "everywhere" verification. Computer Science - Research and Development, 2013, 28, 295-310.	2.7	5
118	Verification of linear duration properties over continuous-time markov chains. ACM Transactions on Computational Logic, 2013, 14, 1-35.	0.7	5
119	Advances in Quantitative Verification for Ubiquitous Computing. Lecture Notes in Computer Science, 2013, , 42-58.	1.0	5
120	Computing Cumulative Rewards Using Fast Adaptive Uniformisation. Lecture Notes in Computer Science, 2013, , 33-49.	1.0	5
121	On Quantitative Software Quality Assurance Methodologies for Cardiac Pacemakers. Lecture Notes in Computer Science, 2014, , 365-384.	1.0	4
122	PID Control of Biochemical Reaction Networks. , 2019, , .		4
123	Dependability Analysis and Verification for Connected Systems. Lecture Notes in Computer Science, 2010, , 263-277.	1.0	4
124	Verification of linear duration properties over continuous-time markov chains. , 2012, , .		3
125	Synthesizing Pareto Optimal Decision for Autonomic Clouds Using Stochastic Games Model Checking. , 2017, , .		3
126	Preface to the special issue on Probabilistic Model Checking. Formal Methods in System Design, 2013, 43, 121-123.	0.9	2

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127	Computing Cumulative Rewards Using Fast Adaptive Uniformization. ACM Transactions on Modeling and Computer Simulation, 2015, 25, 1-23.	0.6	2
128	Advances and challenges of quantitative verification and synthesis for cyber-physical systems. , 2016, , .		2
129	Experimental Biological Protocols with Formal Semantics. Lecture Notes in Computer Science, 2018, , 165-182.	1.0	2
130	Modal Specifications for Probabilistic Timed Systems. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 117, 66-80.	0.8	2
131	2011 CAV award announcement. Formal Methods in System Design, 2012, 41, 1-2.	0.9	1
132	A process algebraic framework for estimating the energy consumption in ad-hoc wireless sensor networks. , 2013, , .		1
133	Simulation-Based Verification of Cardiac Pacemakers With Guaranteed Coverage. IEEE Design and Test, 2015, 32, 27-34.	1.1	1
134	Parameter synthesis for probabilistic timed automata using stochastic game abstractions. Theoretical Computer Science, 2018, 735, 64-81.	0.5	1
135	2014 CAV award announcement. Formal Methods in System Design, 2016, 48, 149-151.	0.9	0
136	A Language for Modeling and Optimizing Experimental Biological Protocols. Computation, 2021, 9, 107.	1.0	0