Twan Basten

List of Publications by Year
in descending order

189 papers	3,064 citations	471371 17 h-index	276775 41 g-index
191 all docs	191 docs citations	191 times ranked	1602 citing authors

#	Article	IF	Citations
1	Inheritance of workflows: an approach to tackling problems related to change. Theoretical Computer Science, 2002, 270, 125-203.	0.5	369
2	Diagnosing Workflow Processes using Woflan. Computer Journal, 2001, 44, 246-279.	1.5	299
3	System-scenario-based design of dynamic embedded systems. ACM Transactions on Design Automation of Electronic Systems, 2009, 14, 1-45.	1.9	122
4	Exploring trade-offs in buffer requirements and throughput constraints for synchronous dataflow graphs. , 2006, , .		119
5	Inheritance of behavior. The Journal of Logic and Algebraic Programming, 2001, 47, 47-145.	1.4	115
6	Throughput-Buffering Trade-Off Exploration for Cyclo-Static and Synchronous Dataflow Graphs. IEEE Transactions on Computers, 2008, 57, 1331-1345.	2.4	109
7	Scenario-aware dataflow: Modeling, analysis and implementation of dynamic applications. , 2011, , .		74
8	Branching bisimilarity is an equivalence indeed!. Information Processing Letters, 1996, 58, 141-147.	0.4	72
9	MoBAN: A Configurable Mobility Model for Wireless Body Area Networks. , 2011, , .		50
10	An event-based monitoring service for networks on chip. ACM Transactions on Design Automation of Electronic Systems, 2005, 10, 702-723.	1.9	46
11	Reactive process networks. , 2004, , .		45
12	A Predictable Multiprocessor Design Flow for Streaming Applications with Dynamic Behaviour. , 2010, , .		41
13	A robust protocol stack for multi-hop wireless body area networks with transmit power adaptation. , 2010, , .		41
14	A parameterized compositional multi-dimensional multiple-choice knapsack heuristic for CMP run-time management. , 2009, , .		40
15	A domain-independent descriptive design model and its application to structured reflection on design processes. Research in Engineering Design - Theory, Applications, and Concurrent Engineering, 2006, 16, 147-173.	1.2	39
16	Identifying Commonalities and Differences in Object Life Cycles Using Behavioral Inheritance. Lecture Notes in Computer Science, 2001, , 32-52.	1.0	38
17	Transaction Monitoring in Networks on Chip: The On-Chip Run-Time Perspective. , 2006, , .		35
18	Buffer Sizing for Rate-Optimal Single-Rate Data-Flow Scheduling Revisited. IEEE Transactions on Computers, 2010, 59, 188-201.	2.4	34

#	ARTICLE	IF	CITATIONS
19	Model-Driven Design-Space Exploration for Embedded Systems: The Octopus Toolset. Lecture Notes in Computer Science, 2010, , 90-105.	1.0	34
20	Automatic scenario detection for improved WCET estimation. , 2005, , .		32
21	Latency Minimization for Synchronous Data Flow Graphs. , 2007, , .		32
22	Liveness and Boundedness of Synchronous Data Flow Graphs. , 2006, , .		30
23	Parametric Throughput Analysis of Synchronous Data Flow Graphs. , 2008, , .		30
24	Topology Management and TSCH Scheduling for Low-Latency Convergecast in In-Vehicle WSNs. IEEE Transactions on Industrial Informatics, 2019, 15, 1082-1093.	7.2	30
25	The FitOptiVis ECSEL project. , 2019, , .		28
26	Ambient intelligence visions and achievements: linking abstract ideas to real-world concepts. , 0, , .		27
27	A fast and scalable multidimensional multiple-choice knapsack heuristic. ACM Transactions on Design Automation of Electronic Systems, 2013, 18, 1-32.	1.9	27
28	An event-based network-on-chip monitoring service. , 2004, , .		25
29	Resource-efficient routing and scheduling of time-constrained streaming communication on networks-on-chip. Journal of Systems Architecture, 2008, 54, 411-426.	2.5	24
30	Enhanced Time-Slotted Channel Hopping in WSNs Using Non-intrusive Channel-Quality Estimation. , 2015, , .		24
31	Multiprocessor Resource Allocation for Throughput-Constrained Synchronous Dataflow Graphs. Proceedings - Design Automation Conference, 2007, , .	0.0	22
32	Intra-task scenario-aware voltage scheduling. , 2005, , .		22
33	An Algebra of Pareto Points. , 0, , .		21
34	Efficient Retiming of Multirate DSP Algorithms. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2012, 31, 831-844.	1.9	21
35	MCMAC: An Optimized Medium Access Control Protocol for Mobile Clusters in Wireless Sensor Networks. , 2010, , .		19
36	Modeling static-order schedules in synchronous dataflow graphs. , 2012, , .		19

#	Article	IF	Citations
37	Throughput-constrained DVFS for scenario-aware dataflow graphs. , 2013, , .		19
38	Modular model-based supervisory controller design for wafer logistics in lithography machines. , 2015, , .		19
39	Dependable Interference-Aware Time-Slotted Channel Hopping for Wireless Sensor Networks. ACM Transactions on Sensor Networks, 2018, 14, 1-35.	2.3	19
40	Performance Analysis of Weakly-Consistent Scenario-Aware Dataflow Graphs. Journal of Signal Processing Systems, 2017, 87, 157-175.	1.4	18
41	Application Scenarios in Streaming-Oriented Embedded System Design. , 2006, , .		17
42	Parametric throughput analysis of scenario-aware dataflow graphs. , 2012, , .		17
43	Simulating and analyzing railway interlockings in ExSpect. IEEE Parallel and Distributed Technology, 1995, 3, 50.	0.7	16
44	Application Scenarios in Streaming-Oriented Embedded-System Design. IEEE Design and Test of Computers, 2008, 25, 581-589.	1.4	16
45	Exploring trade-offs between performance and resource requirements for synchronous dataflow graphs. , 2009, , .		16
46	Multi-layer multi-rate model predictive control for vehicle platooning under IEEE 802.11p. Transportation Research Part C: Emerging Technologies, 2021, 124, 102905.	3.9	16
47	Compositional specification of functionality and timing of manufacturing systems. , 2016, , .		15
48	Vector time and causality among abstract events in distributed computations. Distributed Computing, 1997, 11, 21-39.	0.7	14
49	Online multi-face detection and tracking using detector confidence and structured SVMs. , 2015, , .		14
50	xCPS. ACM SIGBED Review, 2017, 14, 81-95.	1.8	14
51	A scenario- and platform-aware design flow for image-based control systems. Microprocessors and Microsystems, 2020, 75, 103037.	1.8	14
52	A monitoring-aware network-on-chip design flow. Journal of Systems Architecture, 2008, 54, 397-410.	2.5	13
53	Formal Modeling and Scheduling of Datapaths of Digital Document Printers. Lecture Notes in Computer Science, 2008, , 170-187.	1.0	13
54	Integrated model-driven design-space exploration for embedded systems. , 2011, , .		13

#	ARTICLE	IF	CITATIONS
55	Static Rate-Optimal Scheduling of Multirate DSP Algorithms via Retiming and Unfolding. , 2012, , .		13
56	Mapping of synchronous dataflow graphs on MPSoCs based on parallelism enhancement. Journal of Parallel and Distributed Computing, 2017, 101, 79-91.	2.7	13
57	Quality-of-service trade-off analysis for wireless sensor networks. Performance Evaluation, 2009, 66, 191-208.	0.9	12
58	Schedule-Extended Synchronous Dataflow Graphs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2013, 32, 1495-1508.	1.9	12
59	Robustness analysis of multiprocessor schedules. , 2014, , .		12
60	Control of Platooned Vehicles in Presence of Traffic Shock Waves. , 2019, , .		12
61	Profiling Driven Scenario Detection and Prediction for Multimedia Applications. , 2006, , .		11
62	A Calculator for Pareto Points. , 2007, , .		11
63	Scenario Selection and Prediction for DVS-Aware Scheduling of Multimedia Applications. Journal of Signal Processing Systems, 2008, 50, 137-161.	1.4	11
64	Automated bottleneck-driven design-space exploration of media processing systems. , 2010, , .		11
65	Multiconstraint Static Scheduling of Synchronous Dataflow Graphs Via Retiming and Unfolding. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 905-918.	1.9	11
66	Analysing qos trade-offs in wireless sensor networks. , 2007, , .		10
67	Execution-time Prediction for Dynamic Streaming Applications with Task-level Parallelism. , 2007, , .		10
68	Dynamic data prioritization for quality-of-service differentiation in heterogeneous Wireless Sensor Networks. , 2011, , .		10
69	Model-Driven Design-Space Exploration for Software-Intensive Embedded Systems. Embedded Systems, 2013, , 189-244.	0.6	10
70	Fast Multiprocessor Scheduling with Fixed Task Binding of Large Scale Industrial Cyber Physical Systems. , 2013, , .		10
71	An Experimental Study of Cross-Technology Interference in In-Vehicle Wireless Sensor Networks. , 2016, , .		10
72	Online Scheduling of 2-Re-entrant Flexible Manufacturing Systems. Transactions on Embedded Computing Systems, 2017, 16, 1-20.	2.1	10

#	Article	IF	Citations
73	Cluster-Based Partial-Order Reduction. Automated Software Engineering, 2004, 11, 365-402.	2.2	9
74	On-demand data forwarding for automatic adaptation of data propagation in WBANs. , 2012, , .		9
75	RASW: A run-time adaptive sliding window to improve Viola-Jones object detection. , 2013, , .		9
76	A blueprint for system-level performance modeling of software-intensive embedded systems. International Journal on Software Tools for Technology Transfer, 2016, 18, 21-40.	1.7	9
77	Analyzing execution traces: critical-path analysis and distance analysis. International Journal on Software Tools for Technology Transfer, 2017, 19, 487-510.	1.7	9
78	Pareto Analysis with Uncertainty. , 2011, , .		8
79	A Probabilistic Acknowledgment Mechanism for Wireless Sensor Networks. , 2011, , .		8
80	Iteration-Based Trade-Off Analysis of Resource-Aware SDF. , 2011, , .		8
81	A tool for fast ground truth generation for object detection and tracking from video. , 2014, , .		8
82	Co-simulation Framework for Control, Communication and Traffic for Vehicle Platoons. , 2018, , .		8
83	Designing image-based control systems considering workload variations. , 2019, , .		8
84	Kahn Process Networks and a Reactive Extension. , 2013, , 1041-1081.		8
85	PARS: A Process Algebra with Resources and Schedulers. Lecture Notes in Computer Science, 2004, , 134-150.	1.0	8
86	Schedule Synthesis for Halide Pipelines on GPUs. Transactions on Architecture and Code Optimization, 2020, 17, 1-25.	1.6	8
87	Using Aspect-GAMMA in the design of embedded systems. , 0, , .		7
88	Configuring multi-objective evolutionary algorithms for design-space exploration of wireless sensor networks. , 2009, , .		7
89	Fast simulation methods to predict wireless sensor network performance. , 2009, , .		7
90	Semantic interoperability in sensor applications making sense of sensor data. , 2013, , .		7

#	Article	IF	Citations
91	Fault-tolerant embedded control systems for unreliable hardware. , 2014, , .		7
92	IMACS: A Framework for Performance Evaluation of Image Approximation in a Closed-loop System. , 2019, , .		7
93	Schedule Synthesis for Halide Pipelines through Reuse Analysis. Transactions on Architecture and Code Optimization, 2019, 16, 1-22.	1.6	7
94	Modeling and validating globally asynchronous design in synchronous frameworks. , 0, , .		6
95	Proactive reconfiguration of wireless sensor networks. , 2011, , .		6
96	Efficient Cluster Mobility Support for TDMA-Based MAC Protocols in Wireless Sensor Networks. ACM Transactions on Sensor Networks, 2014, 10, 1-32.	2.3	6
97	Optimising Quality-of-Control for Data-Intensive Multiprocessor Image-Based Control Systems Considering Workload Variations. , 2018, , .		6
98	Receiver-Sensitivity Control for Energy-Efficient IoT Networks. IEEE Communications Letters, 2021, 25, 1383-1386.	2.5	6
99	Designing Area and Performance Constrained SIMD/VLIW Image Processing Architectures. Lecture Notes in Computer Science, 2005, , 689-696.	1.0	6
100	Kahn Process Networks and a Reactive Extension. , 2010, , 967-1006.		6
101	QoS Management for Wireless Sensor Networks with a Mobile Sink. Lecture Notes in Computer Science, 2009, , 53-68.	1.0	6
102	Memory-constrained static rate-optimal scheduling of synchronous dataflow graphs via retiming. , 2014, , .		6
103	Programming tensor cores from an image processing DSL. , 2020, , .		6
104	Partial-Order Reduction for Supervisory Controller Synthesis. IEEE Transactions on Automatic Control, 2022, 67, 870-885.	3.6	6
105	A pareto-algebraic framework for signal power optimization in global routing. , 2010, , .		5
106	Predictable dynamic embedded data processing. , 2012, , .		5
107	A Re-entrant Flowshop Heuristic for Online Scheduling of the Paper Path in a Large Scale Printer. , 2015, , .		5
108	xCPS. , 2015, , .		5

#	Article	IF	Citations
109	Partial-Order Reduction for Performance Analysis of Max-Plus Timed Systems. , 2018, , .		5
110	Scalable Analysis for Multi-Scale Dataflow Models. Transactions on Embedded Computing Systems, 2018, 17, 1-26.	2.1	5
111	Monotonic Optimization of Dataflow Buffer Sizes. Journal of Signal Processing Systems, 2019, 91, 21-32.	1.4	5
112	Design and management of image processing pipelines within CPS: 2 years of experience from the FitOptiVis ECSEL Project. , 2020, , .		5
113	Process Algebra in PVS. Lecture Notes in Computer Science, 1999, , 270-284.	1.0	5
114	Performance Engineering for Industrial Embedded Data-Processing Systems. Lecture Notes in Computer Science, 2015, , 399-414.	1.0	5
115	Exploring the trade-off between processing resources and settling time in image-based control through LQR tuning. , 2017, , .		5
116	Parsing Partially Ordered Multisets. International Journal of Foundations of Computer Science, 1997, 08, 379-407.	0.8	4
117	A systematic engineering tool chain approach for self-organizing building automation systems. , 2013, , .		4
118	Reconfigurable pipelined sensing for image-based control. , 2016, , .		4
119	Robust online face tracking-by-detection. , 2016, , .		4
120	Loop transformations leveraging hardware prefetching. , 2018, , .		4
121	Hybrid Timeslot Design for IEEE 802.15.4 TSCH to Support Heterogeneous WSNs. , 2018, , .		4
122	Optimising Multiprocessor Image-Based Control Through Pipelining and Parallelism. IEEE Access, 2021, 9, 112332-112358.	2.6	4
123	SPaC. , 2008, , .		4
124	Delay-Aware Multi-Layer Multi-Rate Model Predictive Control for Vehicle Platooning Under Message-Rate Congestion Control. IEEE Access, 2022, 10, 44583-44607.	2.6	4
125	Predictable Embedding of Large Data Structures in Multiprocessor Networks-on-Chip. , 0, , .		3
126	Analyzing concurrency in streaming applications. Journal of Systems Architecture, 2008, 54, 124-144.	2.5	3

#	Article	IF	Citations
127	Predicting the throughput of multiprocessor applications under dynamic workload. , 2010, , .		3
128	Thermal-aware scratchpad memory design and allocation. , 2010, , .		3
129	Parameterized Partial Orders for Modeling Embedded System Use Cases: Formal Definition and Translation to Coloured Petri Nets. , 2011, , .		3
130	Hybrid Code-Data Prefetch-Aware Multiprocessor Task Graph Scheduling. , 2011, , .		3
131	Architecture for self-organizing, co-operative and robust Building Automation Systems. , 2013, , .		3
132	Performance analysis of weakly-consistent scenario-aware dataflow graphs. , 2014, , .		3
133	Multi-Constraint multi-processor Resource Allocation. , 2015, , .		3
134	Tight temporal bounds for dataflow applications mapped onto shared resources. , 2016, , .		3
135	Parametric Critical Path Analysis for Event Networks With Minimal and Maximal Time Lags. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2018, 37, 2697-2708.	1.9	3
136	Designing a Controller with Image-based Pipelined Sensing and Additive Uncertainties. ACM Transactions on Cyber-Physical Systems, 2019, 3, 1-26.	1.9	3
137	Trading Digital Accuracy for Power in an RSSI Computation of a Sensor Network Transceiver. , 2019, , .		3
138	Scenarios in the Design of Flexible Manufacturing Systems. , 2020, , 181-224.		3
139	Model-Driven Design-Space Exploration for Software-Intensive Embedded Systems. Lecture Notes in Computer Science, 2012, , 1-6.	1.0	3
140	Kahn Process Networks and a Reactive Extension. , 2019, , 865-906.		3
141	Design and management of image processing pipelines within CPS: Acquired experience towards the end of the FitOptiVis ECSEL Project. Microprocessors and Microsystems, 2021, 87, 104350.	1.8	3
142	CAST - a task-level concurrency analysis tool. , 0, , .		2
143	Separation of concerns in the formal design of real-time shared data-space systems. , 0, , .		2
144	Designing next-generation real-time streaming systems. , 2011, , .		2

#	Article	IF	Citations
145	Distributed maintenance of minimum-cost path information in wireless sensor networks. , 2011, , .		2
146	Playing games with scenario- and resource-aware SDF graphs through policy iteration. , 2012, , .		2
147	Demonstrating on-demand listening and data forwarding in wireless body area networks. , 2012, , .		2
148	Collaborative Multiobjective Global Routing. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1308-1321.	2.1	2
149	Iterative robust multiprocessor scheduling. , 2015, , .		2
150	A Fast Estimator of Performance with Respect to the Design Parameters of Self Re-Entrant Flowshops. , 2016, , .		2
151	Checking Metric Temporal Logic with TRACE. , 2016, , .		2
152	Effective link quality estimation as a means to improved end-to-end packet delivery in high traffic mobile ad hoc networks â˜†. Digital Communications and Networks, 2017, 3, 150-163.	2.7	2
153	Task-FIFO Co-Scheduling of Streaming Applications on MPSoCs with Predictable Memory Hierarchy. Transactions on Embedded Computing Systems, 2017, 16, 1-25.	2.1	2
154	Understanding the Impact of Circuit-Level Inaccuracy on Sensor Network Performance. , 2018, , .		2
155	Compositional Dataflow Modelling for Cyclo-Static Applications. , 2018, , .		2
156	Implementation-aware design of image-based control with on-line measurable variable-delay. , 2019, , .		2
157	Trading Sensitivity for Power in an IEEE 802.15.4 Conformant Adequate Demodulator. , 2020, , .		2
158	Model-driven system-performance engineering for cyber-physical systems. , 2021, , .		2
159	A Compositional Model for Multi-Rate Max-Plus Linear Systems. IFAC-PapersOnLine, 2020, 53, 54-61.	0.5	2
160	Firmness Analysis of Real-time Tasks. Transactions on Embedded Computing Systems, 2020, 19, 1-24.	2.1	2
161	Scenarios in Dataflow Modeling and Analysis. , 2020, , 145-180.		2
162	Predictable embedding of large data structures in multiprocessor networks-on-chip. , 0, , .		1

#	Article	IF	Citations
163	Dynamic-SIMD for lens distortion compensation. , 2006, , .		1
164	A Distributed Feedback Control Mechanism for Quality-of-Service Maintenance in Wireless Sensor Networks. , 2012, , .		1
165	Fast sink placement for Gossip-based Wireless Sensor Networks. , 2012, , .		1
166	Memory-constrained static rate-optimal scheduling of synchronous dataflow graphs via retiming. , 2014, , .		1
167	Fast-performance simulation for Gossip-based Wireless Sensor Networks. Simulation, 2014, 90, 103-126.	1.1	1
168	Multi-Domain Virtual Prototyping in a SystemC SIL framework: A heating system case study. , 2015, , .		1
169	Task-FIFO Co-scheduling of Streaming Applications on MPSoCs with Predictable Memory Hierarchy. , 2015, , .		1
170	A Distributed Reconfiguration Approach for Quality-of-Service Provisioning in Dynamic Heterogeneous Wireless Sensor Networks. ACM Transactions on Sensor Networks, 2015, 11, 1-41.	2.3	1
171	INLyD. , 2016, , .		1
172	Throughput-Buffering Trade-Off Analysis for Scenario-Aware Dataflow Models. , 2018, , .		1
173	Guard-Time Design for Symmetric Synchronization in IEEE 802.15.4 Time-Slotted Channel Hopping. , 2018, , .		1
174	Improving End-to-end Packet Delivery in High Traffic Multi-hop Wireless Ad Hoc Networks. , 2015, , .		1
175	Practical instruction set design and compiler retargetability using static resource models. , 0, , .		0
176	Analyzing concurrency in computational networks. , 2003, , .		0
177	Static resource models for code-size efficient embedded processors. Transactions on Embedded Computing Systems, 2003, 2, 219-250.	2.1	0
178	Aspects of Adaptive Systems Engineering: A Professional Printing Case. Embedded Systems, 2013, , 11-40.	0.6	0
179	Wireless Body Area Network Protocols. , 2015, , 191-210.		0
180	Wireless Body Area Network Data Delivery. , 2015, , 211-230.		0

#	Article	IF	Citations
181	Communication aware multiprocessor binding for shared memory systems. , 2016, , .		0
182	Special Section. ACM Transactions on Design Automation of Electronic Systems, 2017, 22, 1-2.	1.9	0
183	Timing Prediction for Service-Based Applications Mapped on Linux-Based Multi-core Platforms. , 2018, , .		0
184	Firmness Analysis of Real-Time Applications Under Static-Priority Preemptive Scheduling. , 2018, , .		0
185	Parametric Scheduler Characterization. Transactions on Embedded Computing Systems, 2019, 18, 1-25.	2.1	0
186	System-Scenario-based Design Principles and Applications. , 2020, , .		0
187	Reconfigurable pipelined control systems. IEEE Design and Test, 2020, , 1-1.	1.1	0
188	Semantic Interoperability in Body Area Sensor Networks and Applications. , 2014, , .		0
189	Receiver Design with an Adjustable Energy-Signal-Quality Trade-off for IoT Networks. IEEE Internet of Things Journal, 2022, , 1-1.	5.5	0