

List of Publications by Year in descending order

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Version: 2024-02-01

98
papers

1,734
citations

279487

23
h-index

360668

35
g-index

112
all docs

112
docs citations

112
times ranked

1075
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological analysis of 3D building models using a spatial query language. Advanced Engineering Informatics, 2009, 23, 370-385.	4.0	90
2	Specification and implementation of directional operators in a 3D spatial query language for building information models. Advanced Engineering Informatics, 2009, 23, 32-44.	4.0	87
3	Processing of Topological BIM Queries using Boundary Representation Based Methods. Advanced Engineering Informatics, 2014, 28, 272-286.	4.0	82
4	Semantic Enrichment for Building Information Modeling: Procedure for Compiling Inference Rules and Operators for Complex Geometry. Journal of Computing in Civil Engineering, 2017, 31, .	2.5	81
5	Improving progress monitoring by fusing point clouds, semantic data and computer vision. Automation in Construction, 2020, 116, 103210.	4.8	81
6	Bridge construction schedule generation with pattern-based construction methods and constraint-based simulation. Advanced Engineering Informatics, 2010, 24, 379-388.	4.0	63
7	Building Information Modeling: Why? What? How?. , 2018, , 1-24.		59
8	Integrating RC Bridge Defect Information into BIM Models. Journal of Computing in Civil Engineering, 2018, 32, .	2.5	49
9	Exchange of Parametric Bridge Models Using a Neutral Data Format. Journal of Computing in Civil Engineering, 2013, 27, 593-606.	2.5	48
10	Generation and use of sparse navigation graphs for microscopic pedestrian simulation models. Advanced Engineering Informatics, 2012, 26, 669-680.	4.0	46
11	Implementing Metric Operators of a Spatial Query Language for 3D Building Models: Octree and B-Rep Approaches. Journal of Computing in Civil Engineering, 2009, 23, 34-46.	2.5	43
12	Bidirectional coupling of macroscopic and microscopic pedestrian evacuation models. Safety Science, 2012, 50, 1695-1703.	2.6	40
13	Synchronous collaborative tunnel design based on consistency-preserving multi-scale models. Advanced Engineering Informatics, 2014, 28, 499-517.	4.0	39
14	Integrating pedestrian simulation, tracking and event detection for crowd analysis. , 2011, , .		38
15	Acquisition and Consecutive Registration of Photogrammetric Point Clouds for Construction Progress Monitoring Using a 4DABIM. PFG - Journal of Photogrammetry, Remote Sensing and Geoinformation Science, 2017, 85, 3-15.	0.7	38
16	Code compliance checking of railway designs by integrating BIM, BPMN and DMN. Automation in Construction, 2021, 121, 103427.	4.8	36
17	BIM policy and management. Construction Management and Economics, 2020, 38, 413-419.	1.8	35
18	Data retrieval from building information models based on visual programming. Visualization in Engineering, 2017, 5, .	8.8	32

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19	A meta-model approach for formal specification and consistent management of multi-LOD building models. <i>Advanced Engineering Informatics</i> , 2019, 40, 135-153.	4.0	31
20	Modular Coordination and BIM: Development of Rule Based Smart Building Components. <i>Procedia Engineering</i> , 2015, 123, 519-527.	1.2	29
21	Modeling pedestriansâ€™ interest in locations: A concept to improve simulations of pedestrian destination choice. <i>Simulation Modelling Practice and Theory</i> , 2016, 61, 47-62.	2.2	29
22	Automated Code Compliance Checking Based on a Visual Language and Building Information Modeling. , 2015, , .		29
23	Mixed integer programming for dynamic tower crane and storage area optimization on construction sites. <i>Automation in Construction</i> , 2020, 120, 103259.	4.8	28
24	Assessing and updating the reliability of concrete bridges subjected to spatial deterioration â€œ principles and software implementation. <i>Structural Concrete</i> , 2015, 16, 356-365.	1.5	27
25	Using graph rewriting methods for the semi-automatic generation of parametric infrastructure models. <i>Advanced Engineering Informatics</i> , 2017, 33, 502-515.	4.0	26
26	Improvement of Realism of 4D Objects Using Augmented Reality Objects and Actual Images of a Construction Site. <i>KSCE Journal of Civil Engineering</i> , 2018, 22, 2735-2746.	0.9	26
27	Graph-based approaches for simulating pedestrian dynamics in building models. , 2010, , 389-394.		24
28	Computational steering on distributed systems: Indoor comfort simulations as a case study of interactive CFD on supercomputers. <i>International Journal of Parallel, Emergent and Distributed Systems</i> , 2007, 22, 275-291.	0.7	21
29	Industry Foundation Classes: A Standardized Data Model for the Vendor-Neutral Exchange of Digital Building Models. , 2018, , 81-126.		19
30	Embedding Procedural Knowledge into Building Information Models: The IFC Procedural Language and Its Application for Flexible Transition Curve Representation. <i>Journal of Computing in Civil Engineering</i> , 2016, 30, .	2.5	18
31	Integrating rules of modular coordination to improve model authoring in BIM. <i>International Journal of Construction Management</i> , 2019, 19, 15-31.	2.2	18
32	Model-based quality assurance in railway infrastructure planning. <i>Automation in Construction</i> , 2020, 109, 102971.	4.8	18
33	Automated Progress Monitoring Based on Photogrammetric Point Clouds and Precedence Relationship Graphs. , 2015, , .		17
34	Vagueness visualization in building models across different design stages. <i>Advanced Engineering Informatics</i> , 2020, 45, 101107.	4.0	16
35	A unified pedestrian routing model for graph-based wayfinding built on cognitive principles. <i>Transportmetrica A: Transport Science</i> , 2018, 14, 406-432.	1.3	15
36	Spice: a cognitive agent framework for computational crowd simulations in complex environments. <i>Autonomous Agents and Multi-Agent Systems</i> , 2018, 32, 387-416.	1.3	14

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37	Semi-automated site equipment selection and configuration through formal knowledge representation and inference. <i>Advanced Engineering Informatics</i> , 2018, 38, 488-500.	4.0	14
38	Georeferencing in the context of building information modelling. <i>Automation in Construction</i> , 2020, 118, 103211.	4.8	14
39	Toward the Exchange of Parametric Bridge Models Using a Neutral Data Format. , 2011, , .		12
40	Benefits and Limitations of Linked Data Approaches for Road Modeling and Data Exchange. <i>Lecture Notes in Computer Science</i> , 2018, , 245-261.	1.0	12
41	Industrializing precast productions. <i>Civil Engineering Design</i> , 2021, 3, 87-98.	0.8	12
42	Concurrent Hierarchical Finite State Machines for Modeling Pedestrian Behavioral Tendencies. <i>Transportation Research Procedia</i> , 2014, 2, 576-584.	0.8	10
43	Bridging qualitative spatial constraints and feature-based parametric modelling: Expressing visibility and movement constraints. <i>Advanced Engineering Informatics</i> , 2017, 31, 2-17.	4.0	10
44	Ensemble-learning approach for the classification of Levels Of Geometry (LOG) of building elements. <i>Advanced Engineering Informatics</i> , 2022, 51, 101497.	4.0	10
45	Towards TransiTUM: A Generic Framework for Multiscale Coupling of Pedestrian Simulation Models based on Transition Zones. <i>Transportation Research Procedia</i> , 2014, 2, 495-500.	0.8	9
46	Query Support for BIMs using Semantic and Spatial Conditions. <i>Advances in Civil and Industrial Engineering Book Series</i> , 2010, , 405-450.	0.2	9
47	Collaborative computational steering: Principles and application in HVAC layout. <i>Integrated Computer-Aided Engineering</i> , 2006, 13, 361-376.	2.5	8
48	A Hybrid and Multiscale Approach to Model and Simulate Mobility in the Context of Public Events. <i>Transportation Research Procedia</i> , 2016, 19, 350-363.	0.8	8
49	Service bottlenecks in pedestrian dynamics. <i>Transportmetrica A: Transport Science</i> , 2018, 14, 392-405.	1.3	8
50	Common Data Environment. , 2018, , 279-291.		8
51	A Unified Pedestrian Routing Model Combining Multiple Graph-Based Navigation Methods. , 2016, , 241-248.		8
52	Graph Rewriting Techniques in Engineering Design. <i>Frontiers in Built Environment</i> , 2022, 7, .	1.2	8
53	Using Product Data Management Systems for Civil Engineering Projects â€” Potentials and Obstacles. , 2009, , .		7
54	Employing Product Data Management Systems in Civil Engineering Projects: Functionality Analysis and Assessment. <i>Journal of Computing in Civil Engineering</i> , 2011, 25, 430-441.	2.5	7

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55	A System Dynamics based Perspective to Help to Understand the Managerial Big Picture in Respect of Urban Event Dynamics. <i>Transportation Research Procedia</i> , 2014, 2, 669-674.	0.8	7
56	BIM-Based Code Compliance Checking. , 2018, , 367-381.		7
57	Analyzing Contextual Linking of Heterogeneous Information Models from the Domains BIM and UIM. <i>ISPRS International Journal of Geo-Information</i> , 2021, 10, 807.	1.4	7
58	Building Information Modeling. , 2018, , 1475-1485.		6
59	Principles of Geometric Modeling. , 2018, , 27-41.		6
60	Levels of detail, development, definition, and information need: a critical literature review. <i>Journal of Information Technology in Construction</i> , 2022, 27, 363-392.	1.4	6
61	Graph-based version control for asynchronous BIM collaboration. <i>Advanced Engineering Informatics</i> , 2022, 53, 101664.	4.0	6
62	An Iterative, Octree-Based Algorithm for Distance Computation Between Polyhedra with Complex Surfaces. , 2007, , 103.		5
63	Collaborative Data Management. , 2018, , 251-277.		5
64	BIM-Based Progress Monitoring. , 2018, , 463-476.		5
65	A generic and density-sensitive method for multi-scale pedestrian dynamics. <i>Automation in Construction</i> , 2021, 122, 103489.	4.8	5
66	Germany's Governmental BIM Initiative "The BIM4INFRA2020 Project Implementing the BIM Roadmap. <i>Lecture Notes in Civil Engineering</i> , 2021, , 452-465.	0.3	5
67	BIM-Based Life-Cycle Management for Reinforced Concrete Buildings. <i>International Journal of 3-D Information Modeling</i> , 2012, 1, 1-24.	0.2	5
68	Using Swap-Based Search Trees to obtain Solutions for Resource Constrained Project Scheduling Problems. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2014, 14, 809-810.	0.2	4
69	Knowledge-based engineering in the context of railway design by integrating BIM, BPMN, DMN and the methodology for knowledge-based engineering applications (MOKA). <i>Journal of Information Technology in Construction</i> , 2021, 26, 193-226.	1.4	4
70	Software-InteroperabilitÄt im Bauwesen "Hintergrund und Motivation. , 2015, , 77-81.		4
71	Process- and Computer Vision-based Detection of As-Built Components on Construction Sites. , 2018, , .		4
72	Determination of float time for individual construction tasks using constraint-based discrete-event simulation. , 2012, , .		3

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73	BIM Programming. , 2018, , 217-231.		3
74	Grundlagen der geometrischen Modellierung. , 2015, , 25-41.		3
75	Process-Based Definition of Model Content. , 2018, , 127-138.		2
76	Recognising railway infrastructure elements in videos and drawings using neural networks. Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction, 2019, 172, 19-33.	1.1	2
77	Minimizing the Traffic Impact Caused by Infrastructure Maintenance Using Ant Colony Optimization. , 2011, , .		2
78	Kooperative Datenverwaltung. , 2015, , 207-236.		2
79	Creating digital twins of existing bridges through AI-based methods. IABSE Symposium Report, 2022, , .	0.0	2
80	ProzessgestÄ¼tzte Defintion von Modellinhalten. , 2015, , 129-147.		1
81	Oppilatio: The Forecast of Crowd Congestions on Street Networks During Public Events. , 2016, , 321-328.		1
82	Automatic detection of plan symbols in railway equipment engineering using a machine learning approach. , 2019, , .		1
83	Automatic Detailing of Parametric Sketches by Graph Transformation. , 2015, , .		1
84	Shape encoding for semantic healing of design models and knowledge transfer to scan-to-BIM. Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction, 2022, 175, 160-180.	1.1	1
85	An Interactive Thermal Fluid Simulator for the Design of HVAC Systems. , 2007, , .		0
86	BIM â€“ Mit Modellcharakter in die Zukunft. Bautechnik, 2017, 94, 213-214.	0.2	0
87	SimulationsgestÄ¼tzte Bauablaufplanung SimulationsgestÄ¼tzte Bauablaufplanung. , 2011, , 159-203.		0
88	Bauen heute und morgen. , 2011, , 1-21.		0
89	Integrierte Planung auf Basis von 3D-Modellen. , 2011, , 23-115.		0
90	Planning of Earthwork Processes Using Discrete Event Simulation. , 2012, , 27-43.		0

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91	Network-Level Infrastructure Management Based on Metaheuristics. , 2013, , 497-518.		0
92	BIM-Programmierwerkzeuge. , 2015, , 193-204.		0
93	Simulation Based Construction Project Schedule Optimization. Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series, 2016, , 482-507.	0.5	0
94	The Relationship Between the Waiting Crowd and the Average Service Time. , 2016, , 209-216.		0
95	Simulation Based Construction Project Schedule Optimization. , 2016, , 173-195.		0
96	Supporting Feature-Based Parametric Modeling Through Graph Rewriting. , 2018, , .		0
97	Evaluation of a Case Study to Design a BIM-Based Cycle Planning Concept. , 0, , .		0
98	Analysis of early-design timber models for sound insulation. Advanced Engineering Informatics, 2022, 53, 101675.	4.0	0