Markus Knig

List of Publications by Citations

95 papers	934 citations	15 h-index	26 g-index
123 ext. papers	1,276 ext. citations	3.8 avg, IF	5.11 L-index

#	Paper	IF	Citations
95	Natural markers for augmented reality-based indoor navigation and facility maintenance. *Automation in Construction*, **2014**, 48, 18-30	9.6	84
94	Interior construction state recognition with 4D BIM registered image sequences. *Automation in Construction*, **2018**, 86, 11-32	9.6	57
93	Bridge construction schedule generation with pattern-based construction methods and constraint-based simulation. *Advanced Engineering Informatics*, **2010**, 24, 379-388	7.4	47
92	Combining visual natural markers and IMU for improved AR based indoor navigation. *Advanced Engineering Informatics*, **2017**, 31, 18-31	7.4	43
91	A tunnel information modelling framework to support management, simulations and visualisations in mechanised tunnelling projects. *Automation in Construction*, **2017**, 83, 78-90	9.6	41
90	Knowledge-based schedule generation and evaluation. *Advanced Engineering Informatics*, **2010**, 24, 389-403	7.4	41
89	Applying rule-based model-checking to construction site layout planning tasks. *Automation in Construction*, **2019**, 97, 205-219	9.6	38
88	Planning and executing construction inspections with unmanned aerial vehicles. *Automation in Construction*, **2018**, 96, 540-553	9.6	34
87	Recognition of process patterns for BIM-based construction schedules. *Advanced Engineering Informatics*, **2017**, 33, 456-472	7.4	33
86	Assessment and weighting of meteorological ensemble forecast members based on supervised machine learning with application to runoff simulations and flood warning. *Advanced Engineering Informatics*, **2017**, 33, 427-439	7.4	25
85	Building Information Modeling: Why? What? How? **2018**, 1-24		21
84	First Person Virtual Reality for Evaluation and Learning of Construction Site Safety **2016**,		20
83	Radar interferometry based settlement monitoring in tunnelling: Visualisation and accuracy analyses. *Visualization in Engineering*, **2016**, 4,	3	18
82	An Empirical Study on the Acceptance of 4D BIM in EPC Projects in China. *Sustainability*, **2019**, 11, 1316	3.6	15
81	Scalable real-time parking lot classification: An evaluation of image features and supervised learning algorithms **2015**,		15
80	Intelligent BIM-based construction scheduling using discrete event simulation **2012**,		15
79	Construction resource efficiency improvement by Long Range Wide Area Network tracking and monitoring. *Automation in Construction*, **2020**, 116, 103245	9.6	14

78	Integrated parametric multi-level information and numerical modelling of mechanised tunnelling projects. *Advanced Engineering Informatics*, **2020**, 43, 101011	7.4	14
77	Do right PLS and do PLS right: A critical review of the application of PLS-SEM in construction management research. *Frontiers of Engineering Management*, **2021**, 8, 356-369	2.7	14
76	Evaluation of Disturbances in Mechanized Tunneling Using Process Simulation. *Computer-Aided Civil and Infrastructure Engineering*, **2016**, 31, 176-192	8.4	14
75	Assessing maintenance strategies for cutting tool replacements in mechanized tunneling using process simulation. *Journal of Simulation*, **2017**, 11, 51-61	1.9	13
74	Hybrid Ground Data Model for Interacting Simulations in Mechanized Tunneling. *Journal of Computing in Civil Engineering*, **2013**, 27, 708-718	5	13
73	Algorithm for quantitative analysis of close call events and personalized feedback in construction safety. *Automation in Construction*, **2019**, 99, 206-222	9.6	13
72	Window detection in facade images for risk assessment in tunneling. *Visualization in Engineering*, **2018**, 6,	3	11
71	Automated Construction of Masonry Buildings using Cable-Driven Parallel Robots **2016**,		11
70	Investigating the Relationship between Construction Supply Chain Integration and Sustainable Use of Material: Evidence from China. *Sustainability*, **2018**, 10, 3581	3.6	11
69	Automated Payment and Contract Management in the Construction Industry by Integrating Building Information Modeling and Blockchain-Based Smart Contracts. *Applied Sciences (Switzerland)*, **2021**, 11, 7653	2.6	11
68	Integrated BIM-to-FEM approach in mechanised tunnelling. *Geomechanik Und Tunnelbau*, **2020**, 13, 212-220	2.6	10
67	BIM-based modeling and management of design options at early planning phases. *Advanced Engineering Informatics*, **2018**, 38, 316-329	7.4	10
66	BIM Applications of Rule-Based Checking in Construction Site Layout Planning Tasks **2016**,		10
65	Framework for Automated Billing in the Construction Industry Using BIM and Smart Contracts. *Lecture Notes in Civil Engineering*, **2021**, 824-838	0.3	10
64	Optimal measurement design for parameter identification in mechanized tunneling. *Underground Space (China)*, **2018**, 3, 34-44	3.7	9
63	GPU-Enabled Pavement Distress Image Classification in Real Time. *Journal of Computing in Civil Engineering*, **2017**, 31, 04016061	5	9
62	Simulation-Based Analysis of Integrated Production and Jobsite Logistics in Mechanized Tunneling. *Journal of Computing in Civil Engineering*, **2016**, 30,	5	9
61	Indoor Localization for Augmented Reality Devices Using BIM, Point Clouds, and Template Matching. *Applied Sciences (Switzerland)*, **2019**, 9, 4260	2.6	9

60	Vom Handwerk zur individualisierten Serienfertigung. *Bautechnik*, **2021**, 98, 243-256	0.5	9
59	Reactive scheduling based on actual logistics data by applying simulation-based optimization. *Visualization in Engineering*, **2015**, 3,	3	8
58	On the Global Sensitivity Analysis Methods in Geotechnical Engineering: A Comparative Study on a Rock Salt Energy Storage. *International Journal of Civil Engineering*, **2019**, 17, 131-143	1.9	7
57	Implementing textural features on GPUs for improved real-time pavement distress detection. *Journal of Real-Time Image Processing*, **2019**, 16, 1383-1394	1.9	7
56	BIM Project Management **2018**, 235-249		7
55	Robustness evaluation of cutting tool maintenance planning for soft ground tunneling projects. *Underground Space (China)*, **2018**, 3, 72-85	3.7	6
54	Using Serious Games in Virtual Reality for Automated Close Call and Contact Collision Analysis in Construction Safety **2019**,		6
53	Computer Vision and Deep Learning for Real-Time Pavement Distress Detection **2019**, 601-607		6
52	Simulation of automated construction using wire robots **2016**,		6
51	From digital models to numerical analysis for mechanised tunnelling: A fully automated design-through-analysis workflow. *Tunnelling and Underground Space Technology*, **2021**, 107, 103622	5.7	6
50	Automatic window detection in facade images. *Automation in Construction*, **2018**, 96, 527-539	9.6	6
49	A Framework for Automated Acquisition and Processing of As-Built Data with Autonomous Unmanned Aerial Vehicles. *Sensors*, **2019**, 19,	3.8	5
48	Generating Construction Schedules with Case-Based Reasoning Support **2007**, 119		5
47	Construction Worker Detection and Tracking in Bird's-Eye View Camera Images **2018**,		5
46	Consistent management and evaluation of building models in the early design stages. *Journal of Information Technology in Construction*, **2020**, 25, 212-232	2.5	5
45	BIM-Anwendungen im Tunnelbau. *Bautechnik*, **2017**, 94, 227-231	0.5	4
44	A hybrid model for estimation of ground movements due to mechanized tunnel excavation. *Computer-Aided Civil and Infrastructure Engineering*, **2019**, 34, 586-601	8.4	4
43	Removing duplicated geometries in IFC models using rigid body transformation estimation and flyweight design pattern. *Visualization in Engineering*, **2018**, 6,	3	4

42	Integrating BIM- and Cost-included Information Container with Blockchain for Construction Automated Payment using Billing Model and Smart Contracts **2020**,		4
41	Employment of the bootstrap method for optimal sensor location considering uncertainties in a coupled hydro-mechanical application. *Applied Soft Computing Journal*, **2019**, 75, 298-309	7.5	4
40	Systematic literature review on smart contracts in the construction industry: Potentials, benefits, and challenges. *Frontiers of Engineering Management*,	2.7	4
39	Stochastic field simulation of slope stability problems: Improvement and reduction of computational effort. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 369, 113167	5.7	3
38	A Cascaded Classifier Approach to Window Detection in Facade Images **2017**,		3
37	Real-time Positioning via LoRa for Construction Site Logistics **2018**,		3
36	Applying Eye Tracking in Virtual Construction Environments to Improve Cognitive Data Collection and Human-Computer Interaction of Site Hazard Identification **2019**,		3
35	Common Data Environment **2018**, 279-291		3
34	BIM-Based Quantity Take-Off **2018**, 383-391		3
33	BIM for 3D Printing in Construction **2018**, 421-446		3
32	Process Analysis of Cable-Driven Parallel Robots for Automated Construction. *Intelligent Systems, Control and Automation: Science and Engineering*, **2018**, 63-83	0.6	2
31	Improved Window Detection in Facade Images **2019**, 537-543		2
30	Using Synthetic Data to Improve and Evaluate the Tracking Performance of Construction Workers on Site. *Applied Sciences (Switzerland)*, **2020**, 10, 4948	2.6	2
29	Prozesssimulation f□ die Leistungsermittlung und -planung beim maschinellen Tunnelbau **2016**, 166-198		2
28	Die INFRABIM-Reifegradmetrik. *Bautechnik*, **2017**, 94, 215-219	0.5	1
27	Comparing Classical and Modern Machine Learning Techniques for Monitoring Pedestrian Workers in Top-View Construction Site Video Sequences. *Applied Sciences (Switzerland)*, **2020**, 10, 8466	2.6	1
26	A scenario-based simulation framework of on- and off-site construction logistics **2017**,		1
25	Synthetic Data for Evaluating the Visual Tracking of Construction Workers **2020**,		1

24	Rule-Based Semantic Validation for Standardized Linked Building Models. *Lecture Notes in Civil Engineering*, **2021**, 772-787	0.3	1
23	Integrated Platform for Interactive and Collaborative Exploration of Tunnel Alignments. *Lecture Notes in Civil Engineering*, **2021**, 320-334	0.3	1
22	Germanys Governmental BIM Initiative The BIM4INFRA2020 Project Implementing the BIM Roadmap. *Lecture Notes in Civil Engineering*, **2021**, 452-465	0.3	1
21	Industrializing precast productions. *Civil Engineering Design*, **2021**, 3, 87-98	1	1
20	Digitalisierung der Arbeitssicherheit auf Baustellen **2021**, 399-414		1
19	Collaborative Data Management **2018**, 251-277		1
18	COBie: A Specification for the Construction Operations Building Information Exchange **2018**, 167-180		1
17	Data Modeling **2018**, 43-62		1
16	Erhung der Arbeitssicherheit im Tunnelbau durch proaktive Kollisionsvermeidung **2018**, 175-220		1
15	Optimisation of geotechnical surveys using a BIM-based geostatistical analysis. *Smart and Sustainable Built Environment*, **2021**, ahead-of-print,	3	1
14	BIM-Based Organization of Inspection Data Using Semantic Web Technology for Infrastructure Asset Management. *Lecture Notes in Civil Engineering*, **2022**, 1117-1126	0.3	1
13	Use of BIM for the optimized operation of road tunnels: Modelling approach, information requirements, and exemplary implementation. *Geomechanik Und Tunnelbau*, **2022**, 15, 167-174	0.6	1
12	A hybrid exploration approach for the prediction of geological changes ahead of mechanized tunnel excavation. *Journal of Applied Geophysics*, **2022**, 104684	1.7	1
11	Ausarbeitungsgrade von BIM-Modellen. *VDI-Buch*, **2021**, 165-191	0.1	0
10	Towards autonomous cloud-based close call data management for construction equipment safety. *Automation in Construction*, **2021**, 132, 103962	9.6	0
9	Quantitative Analysis of Close Call Events. *Lecture Notes in Computer Science*, **2018**, 359-384	0.9	
8	BIM fi die Mengenermittlung. *VDI-Buch*, **2021**, 463-473	0.1	
7	Prinzipien und Techniken der modellgesttzten Zusammenarbeit. *VDI-Buch*, **2021**, 309-333	0.1	

List of Publications

6 Die BIM-Methode im Überblick. *VDI-Buch*, **2021**, 1-31 0.1

5 Building Information Modeling **2021**, 1643-1652

4 Common Data Environment. *VDI-Buch*, **2021**, 335-351 0.1

3 BIM im Tunnelbau. *VDI-Buch*, **2021**, 667-685 0.1

2 Smart Maintenance Services for Buildings with Digital Twins and Augmented Reality **2021**, 130-163

1 Process Modeling **2018**, 63-78