

Ioannis Brilakis

List of Publications by Year in descending order

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144
papers

6,558
citations

50276

46
h-index

82547

72
g-index

150
all docs

150
docs citations

150
times ranked

3399
citing authors

#	ARTICLE	IF	CITATIONS
1	3D Semantic Parsing of Large-Scale Indoor Spaces. , 2016, , .		820
2	Pothole detection in asphalt pavement images. Advanced Engineering Informatics, 2011, 25, 507-515.	8.0	402
3	State of research in automatic as-built modelling. Advanced Engineering Informatics, 2015, 29, 162-171.	8.0	247
4	Construction worker detection in video frames for initializing vision trackers. Automation in Construction, 2012, 28, 15-25.	9.8	200
5	Construction with digital twin information systems. Data-Centric Engineering, 2020, 1, .	2.3	184
6	Automated vision tracking of project related entities. Advanced Engineering Informatics, 2011, 25, 713-724.	8.0	177
7	Progressive 3D reconstruction of infrastructure with videogrammetry. Automation in Construction, 2011, 20, 884-895.	9.8	159
8	Visual retrieval of concrete crack properties for automated post-earthquake structural safety evaluation. Automation in Construction, 2011, 20, 874-883.	9.8	152
9	Toward automated generation of parametric BIMs based on hybrid video and laser scanning data. Advanced Engineering Informatics, 2010, 24, 456-465.	8.0	151
10	Rapid entropy-based detection and properties measurement of concrete spalling with machine vision for post-earthquake safety assessments. Advanced Engineering Informatics, 2012, 26, 846-858.	8.0	151
11	Semantic Enrichment for Building Information Modeling. Computer-Aided Civil and Infrastructure Engineering, 2016, 31, 261-274.	9.8	129
12	Digital twinning of existing reinforced concrete bridges from labelled point clusters. Automation in Construction, 2019, 105, 102837.	9.8	126
13	Automated Pothole Distress Assessment Using Asphalt Pavement Video Data. Journal of Computing in Civil Engineering, 2013, 27, 370-378.	4.7	123
14	Comparison of Image-Based and Time-of-Flight-Based Technologies for Three-Dimensional Reconstruction of Infrastructure. Journal of Construction Engineering and Management - ASCE, 2013, 139, 69-79.	3.8	112
15	Achievements and Challenges in Machine Vision-Based Inspection of Large Concrete Structures. Advances in Structural Engineering, 2014, 17, 303-318.	2.4	106
16	Comparative study of vision tracking methods for tracking of construction site resources. Automation in Construction, 2011, 20, 905-915.	9.8	98
17	Three-Dimensional Tracking of Construction Resources Using an On-Site Camera System. Journal of Computing in Civil Engineering, 2012, 26, 541-549.	4.7	91
18	Framework of aftershock fragility assessment—case studies: older California reinforced concrete building frames. Earthquake Engineering and Structural Dynamics, 2015, 44, 2617-2636.	4.4	91

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19	Fragility curves for non-ductile reinforced concrete frames that exhibit different component response mechanisms. <i>Engineering Structures</i> , 2015, 85, 127-143.	5.3	91
20	Continuous localization of construction workers via integration of detection and tracking. <i>Automation in Construction</i> , 2016, 72, 129-142.	9.8	90
21	SeeBridge as next generation bridge inspection: Overview, Information Delivery Manual and Model View Definition. <i>Automation in Construction</i> , 2018, 90, 134-145.	9.8	88
22	Building Information Modelling, Artificial Intelligence and Construction Tech. <i>Developments in the Built Environment</i> , 2020, 4, 100011.	4.0	88
23	Neurofuzzy Genetic System for Selection of Construction Project Managers. <i>Journal of Construction Engineering and Management - ASCE</i> , 2011, 137, 17-29.	3.8	80
24	Automated Detection of Multiple Pavement Defects. <i>Journal of Computing in Civil Engineering</i> , 2017, 31, .	4.7	79
25	Comparison of Optical Sensor-Based Spatial Data Collection Techniques for Civil Infrastructure Modeling. <i>Journal of Computing in Civil Engineering</i> , 2009, 23, 170-177.	4.7	78
26	Detection of Structural Components in Point Clouds of Existing RC Bridges. <i>Computer-Aided Civil and Infrastructure Engineering</i> , 2019, 34, 191-212.	9.8	78
27	Concrete Column Recognition in Images and Videos. <i>Journal of Computing in Civil Engineering</i> , 2010, 24, 478-487.	4.7	77
28	Multi-classifier for reinforced concrete bridge defects. <i>Automation in Construction</i> , 2019, 105, 102824.	9.8	77
29	Detection of large-scale concrete columns for automated bridge inspection. <i>Automation in Construction</i> , 2010, 19, 1047-1055.	9.8	76
30	Management and analysis of unstructured construction data types. <i>Advanced Engineering Informatics</i> , 2008, 22, 15-27.	8.0	74
31	Automated sparse 3D point cloud generation of infrastructure using its distinctive visual features. <i>Advanced Engineering Informatics</i> , 2011, 25, 760-770.	8.0	74
32	Digital technologies can enhance climate resilience of critical infrastructure. <i>Climate Risk Management</i> , 2022, 35, 100387.	3.2	69
33	Machine Vision-Based Concrete Surface Quality Assessment. <i>Journal of Construction Engineering and Management - ASCE</i> , 2010, 136, 210-218.	3.8	66
34	Automated re-prefabrication system for buildings using robotics. <i>Automation in Construction</i> , 2017, 83, 184-195.	9.8	66
35	Patch detection for pavement assessment. <i>Automation in Construction</i> , 2015, 53, 95-104.	9.8	64
36	Automated Damage Index Estimation of Reinforced Concrete Columns for Post-Earthquake Evaluations. <i>Journal of Structural Engineering</i> , 2015, 141, .	3.4	64

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37	Shape-Based Retrieval of Construction Site Photographs. Journal of Computing in Civil Engineering, 2008, 22, 14-20.	4.7	61
38	Material-Based Construction Site Image Retrieval. Journal of Computing in Civil Engineering, 2005, 19, 341-355.	4.7	59
39	Construction site image retrieval based on material cluster recognition. Advanced Engineering Informatics, 2006, 20, 443-452.	8.0	54
40	Optimized selection of key frames for monocular videogrammetric surveying of civil infrastructure. Advanced Engineering Informatics, 2013, 27, 270-282.	8.0	54
41	Parameter optimization for automated concrete detection in image data. Automation in Construction, 2010, 19, 944-953.	9.8	52
42	Innovative Stereo Vision-Based Approach to Generate Dense Depth Map of Transportation Infrastructure. Transportation Research Record, 2011, 2215, 93-99.	1.9	52
43	Machine Vision-Enhanced Postearthquake Inspection. Journal of Computing in Civil Engineering, 2013, 27, 622-634.	4.7	51
44	Civil Engineering Grand Challenges: Opportunities for Data Sensing, Information Analysis, and Knowledge Discovery. Journal of Computing in Civil Engineering, 2014, 28, .	4.7	51
45	Structural Performance Monitoring Using a Dynamic Data-Driven BIM Environment. Journal of Computing in Civil Engineering, 2018, 32, .	4.7	50
46	Integrating RC Bridge Defect Information into BIM Models. Journal of Computing in Civil Engineering, 2018, 32, .	4.7	49
47	Real-time simulation of construction workers using combined human body and hand tracking for robotic construction worker system. Automation in Construction, 2018, 86, 125-137.	9.8	49
48	Generating Absolute-Scale Point Cloud Data of Built Infrastructure Scenes Using a Monocular Camera Setting. Journal of Computing in Civil Engineering, 2015, 29, .	4.7	44
49	Adaptive computer vision-based 2D tracking of workers in complex environments. Automation in Construction, 2019, 103, 168-184.	9.8	44
50	A Sparsity-Inducing Optimization-Based Algorithm for Planar Patches Extraction from Noisy Point-Cloud Data. Computer-Aided Civil and Infrastructure Engineering, 2015, 30, 85-102.	9.8	42
51	Improving Road Asset Condition Monitoring. Transportation Research Procedia, 2016, 14, 3004-3012.	1.5	41
52	Management of structural monitoring data of bridges using BIM. Proceedings of the Institution of Civil Engineers: Bridge Engineering, 2017, 170, 204-218.	0.6	40
53	Data-Fusion Approaches and Applications for Construction Engineering. Journal of Construction Engineering and Management - ASCE, 2011, 137, 863-869.	3.8	38
54	CLOI-NET: Class segmentation of industrial facilities' point cloud datasets. Advanced Engineering Informatics, 2020, 45, 101121.	8.0	35

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55	A videogrammetric as-built data collection method for digital fabrication of sheet metal roof panels. <i>Advanced Engineering Informatics</i> , 2013, 27, 466-476.	8.0	33
56	A Suitability Analysis of Precast Components for Standardized Bridge Construction in the United Kingdom. <i>Procedia Engineering</i> , 2016, 164, 188-195.	1.2	33
57	Matching Construction Workers across Views for Automated 3D Vision Tracking On-Site. <i>Journal of Construction Engineering and Management - ASCE</i> , 2018, 144, 04018061.	3.8	33
58	Enriching geometric digital twins of buildings with small objects by fusing laser scanning and AI-based image recognition. <i>Automation in Construction</i> , 2022, 140, 104375.	9.8	33
59	Real-Time Volume-to-Plane Comparison for Mixed Reality-Based Progress Monitoring. <i>Journal of Computing in Civil Engineering</i> , 2020, 34, .	4.7	32
60	Detecting healthy concrete surfaces. <i>Advanced Engineering Informatics</i> , 2018, 37, 150-162.	8.0	29
61	Vision-based excavator pose estimation using synthetically generated datasets with domain randomization. <i>Automation in Construction</i> , 2022, 134, 104089.	9.8	29
62	Prioritizing object types for modelling existing industrial facilities. <i>Automation in Construction</i> , 2018, 96, 211-223.	9.8	28
63	Content-Based Search Engines for construction image databases. <i>Automation in Construction</i> , 2005, 14, 537-550.	9.8	26
64	Visual Pattern Recognition Models for Remote Sensing of Civil Infrastructure. <i>Journal of Computing in Civil Engineering</i> , 2011, 25, 388-393.	4.7	24
65	Multimodal Image Retrieval from Construction Databases and Model-Based Systems. <i>Journal of Construction Engineering and Management - ASCE</i> , 2006, 132, 777-785.	3.8	22
66	Comparing Natural Language Processing Methods to Cluster Construction Schedules. <i>Journal of Construction Engineering and Management - ASCE</i> , 2021, 147, .	3.8	22
67	Detection of Railway Masts in Airborne LiDAR Data. <i>Journal of Construction Engineering and Management - ASCE</i> , 2020, 146, .	3.8	21
68	Automated Brick Counting for Façade Construction Progress Estimation. <i>Journal of Computing in Civil Engineering</i> , 2015, 29, .	4.7	20
69	Multistep Explicit Stereo Camera Calibration Approach to Improve Euclidean Accuracy of Large-Scale 3D Reconstruction. <i>Journal of Computing in Civil Engineering</i> , 2016, 30, .	4.7	20
70	Road Design Layer Detection in Point Cloud Data for Construction Progress Monitoring. <i>Journal of Computing in Civil Engineering</i> , 2018, 32, .	4.7	20
71	A vision-based method for on-road truck height measurement in proactive prevention of collision with overpasses and tunnels. <i>Automation in Construction</i> , 2015, 50, 29-39.	9.8	19
72	Automated computation of the fundamental matrix for vision based construction site applications. <i>Advanced Engineering Informatics</i> , 2011, 25, 725-735.	8.0	17

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73	Testing in harsh conditions: Tracking resources on construction sites with machine vision. Automation in Construction, 2011, 20, 328-337.	9.8	16
74	Reducing Greenhouse Gas Emission of Construction Equipment at Construction Sites: Field Study Approach. Journal of Construction Engineering and Management - ASCE, 2019, 145, .	3.8	16
75	Understanding the Problem of Bridge and Tunnel Strikes Caused by Over-height Vehicles. Transportation Research Procedia, 2016, 14, 3915-3924.	1.5	15
76	Detection of Walls, Floors, and Ceilings in Point Cloud Data. , 2016, , .		15
77	Detection of Construction Workers in Video Frames for Automatic Initialization of Vision Trackers. , 2012, , .		13
78	Real-time validation of vision-based over-height vehicle detection system. Advanced Engineering Informatics, 2018, 38, 67-80.	8.0	12
79	Enhancement of Construction Equipment Detection in Video Frames by Combining with Tracking. , 2012, , .		11
80	A Framework for Automated Pavement Condition Monitoring. , 2016, , .		11
81	Automated Defect Detection For Masonry Arch Bridges. , 2019, , .		11
82	Real-Time Concrete Damage Visual Assessment for First Responders. , 2009, , .		10
83	Optimized Parameters for Over-Height Vehicle Detection under Variable Weather Conditions. Journal of Computing in Civil Engineering, 2017, 31, .	4.7	10
84	Comparison of Image-Based and Time-of-Flight-Based Technologies for 3D Reconstruction of Infrastructure. , 2012, , .		9
85	Automated Detection of Concrete Columns from Visual Data. , 2009, , .		8
86	Point Cloud Data Cleaning and Refining for 3D As-Built Modeling of Built Infrastructure. , 2016, , .		7
87	CLOI: A Shape Classification Benchmark Dataset for Industrial Facilities. , 2019, , .		7
88	Instance Segmentation of Industrial Point Cloud Data. Journal of Computing in Civil Engineering, 2021, 35, .	4.7	7
89	State-of-Practice on As-Is Modelling of Industrial Facilities. Lecture Notes in Computer Science, 2018, , 103-124.	1.3	7
90	Generating bridge geometric digital twins from point clouds. , 2019, , .		7

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91	Digital Twinning of Railway Overhead Line Equipment from Airborne LiDAR Data. , 2020, , .		7
92	Identification of Materials from Construction Site Images Using Content Based Image Retrieval Techniques. , 2005, , 1.		6
93	Comparison of Camera Motion Estimation Methods for 3D Reconstruction of Infrastructure. , 2011, , .		6
94	3D Matching of Resource Vision Tracking Trajectories. , 2016, , .		6
95	Geometric Accuracy of Digital Twins for Structural Health Monitoring. , 0, , .		6
96	CLOI: An Automated Benchmark Framework for Generating Geometric Digital Twins of Industrial Facilities. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	3.8	6
97	Comprehensive Decision Support System for Managing Asphalt Pavements. Journal of Transportation Engineering Part B: Pavements, 2020, 146, 06020001.	1.5	6
98	Recursive Segmentation for As-Is Bridge Information Modelling. , 0, , .		6
99	Mixed reality constructs a new frontier for maintaining the built environment. Proceedings of the Institution of Civil Engineers: Civil Engineering, 2017, 170, 53-53.	0.3	5
100	Achievements and Challenges in Recognizing and Reconstructing Civil Infrastructure. Lecture Notes in Computer Science, 2012, , 151-176.	1.3	5
101	Entity Matching across Stereo Cameras for Tracking Construction Workers. , 2016, , .		5
102	Automated Detection of Exposed Reinforcement in Post-Earthquake Safety and Structural Evaluations. , 2011, , .		5
103	Comparison of Civil Infrastructure Optical-Based Spatial Data Acquisition Techniques. , 2007, , .		4
104	Digital Twinning of Existing Bridges from Labelled Point Clusters. , 2019, , .		4
105	Construction schedule risk analysis “a hybrid machine learning approach. Journal of Information Technology in Construction, 2022, 27, 70-93.	2.1	4
106	Analysis of User Needs in Time-Related Risk Management for Holistic Project Understanding. Journal of Construction Engineering and Management - ASCE, 2022, 148, .	3.8	4
107	Comprehensive property retrieval and measurement of concrete spalling using machine vision for post-earthquake safety assessments. , 2012, , .		3
108	A Novel Approach for Automated Selection of Key Video Frames for 3D Reconstruction of Civil Infrastructure. , 2012, , .		3

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109	A benchmarked framework for geometric digital twinning of slab and beam-and-slab bridges. Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction, 2019, 172, 3-18.	1.7	3
110	Outdoor and Large-Scale Real-World Scene Analysis. Lecture Notes in Computer Science, 2012, , .	1.3	3
111	Improving the accuracy of schedule information communication between humans and data. Advanced Engineering Informatics, 2022, 53, 101645.	8.0	3
112	Machine Vision Enhanced Post-Earthquake Inspection. , 2011, , .		2
113	A Transformational Approach to Explicit Stereo Camera Calibration for Improved Euclidean Accuracy of Infrastructure 3D Reconstruction. , 2013, , .		2
114	Aftershock Probabilistic Seismic Demand Model of Damaged Non-Ductile Reinforced Concrete Frames in California. , 2013, , .		2
115	Automated In-Placed Brick Counting for Façade Construction Progress Estimation. , 2014, , .		2
116	Design and Data Modelling of Fibre Optic Systems to Monitor Reinforced Concrete Structural Elements. , 2016, , .		2
117	Monitoring construction labour productivity by way of a smart technology approach. Proceedings of the Institution of Civil Engineers - Smart Infrastructure and Construction, 2019, 172, 70-82.	1.7	2
118	An Automated Target-Oriented Scanning System for Infrastructure Applications. , 2020, , .		2
119	Machine Vision Techniques for Condition Assessment of Civil Infrastructure. Advances in Computer Vision and Pattern Recognition, 2015, , 351-375.	1.3	2
120	Improvements to Concrete Column Detection in Live Video. , 2010, , .		2
121	Initializing Vision Based Trackers Using Semantic Texton Forests. , 2011, , .		2
122	Automated Detection of Potholes in Visual Data. , 2011, , .		2
123	Trajectory-Based Worker Task Productivity Monitoring. , 2018, , .		2
124	Reality Capture: Photography, Videos, Laser Scanning and Drones. Structural Integrity, 2022, , 443-469.	1.4	2
125	Data Analysis on Complicated Construction Data Sources: Vision, Research, and Recent Developments. Lecture Notes in Computer Science, 2006, , 637-652.	1.3	1
126	Validation of Vision Tracking at Egnatia Odos Motorway. , 2009, , .		1

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127	Civil and Environmental Engineering Challenges for Data Sensing and Analysis. , 2011, , .		1
128	Generating the sparse point cloud of a civil infrastructure scene using a single video camera under practical constraints. , 2011, , .		1
129	Full-Body Occlusion Handling and Density Analysis in Traffic Video-Surveillance Systems. Transportation Research Record, 2014, 2460, 58-65.	1.9	1
130	Testing of Depth-Encoded Hough Voting for Infrastructure Object Detection. , 2012, , .		1
131	Minimising Misclassifications of Over-Height Vehicles Due to Wind. , 0, , .		1
132	Road asset classification system. , 2019, , .		1
133	Improving Construction Project Schedules before Execution. , 2020, , .		1
134	Selected and Revised Papers from the ASCE International Workshop on Computing in Civil Engineering 2007, Special Section 2. Journal of Computing in Civil Engineering, 2009, 23, 63-63.	4.7	0
135	Computing in Civil Engineeringâ€™Lessons Learned from the 2007 ASCE International Workshop on Computing in Civil Engineering. Journal of Computing in Civil Engineering, 2009, 23, 1-1.	4.7	0
136	Selected and Revised Papers from the ASCE International Workshop on Computing in Civil Engineering 2007, Special Section 3. Journal of Computing in Civil Engineering, 2009, 23, 139-139.	4.7	0
137	Large-Scale Column Detection for Bridge Inspection. , 2010, , .		0
138	Special Issue on Lessons Learned from the 2009 ASCE International Workshop on Computing in Civil Engineering. Journal of Computing in Civil Engineering, 2011, 25, 419-420.	4.7	0
139	Machine Vision-Based Infrastructure As-Built Documentation Using Edge Points. , 2012, , .		0
140	Special Issue on the 2013 International Workshop on Computing in Civil Engineering. Journal of Computing in Civil Engineering, 2015, 29, .	4.7	0
141	Exploiting Music and Dance Notation to Improve Visualization of Data in BIM. , 2019, , .		0
142	A study on influencing factors and revitalization of the adoption of off-site construction - Case study on the construction market of the United Kingdom -. KIBIM Magazine, 2015, 5, 33-40.	0.2	0
143	Asphalt Road Layer Detection for Construction Progress Monitoring. , 0, , .		0
144	CLOI: An Automated Benchmark Framework for Generating Geometric Digital Twins of Industrial Facilities. , 2022, , .		0