Ioannis Brilakis

List of Publications by Citations

127 papers	4,165 citations	37 h-index	62 g-index
149 ext. papers	5,284 ext. citations	5.4 avg, IF	6.18 L-index

#	Paper	IF	Citations
127	3D Semantic Parsing of Large-Scale Indoor Spaces **2016**,		372
126	Pothole detection in asphalt pavement images. *Advanced Engineering Informatics*, **2011**, 25, 507-515	7.4	271
125	State of research in automatic as-built modelling. *Advanced Engineering Informatics*, **2015**, 29, 162-171	7.4	180
124	Construction worker detection in video frames for initializing vision trackers. *Automation in Construction*, **2012**, 28, 15-25	9.6	163
123	Automated vision tracking of project related entities. *Advanced Engineering Informatics*, **2011**, 25, 713-724	7.4	140
122	Toward automated generation of parametric BIMs based on hybrid video and laser scanning data. *Advanced Engineering Informatics*, **2010**, 24, 456-465	7.4	126
121	Progressive 3D reconstruction of infrastructure with videogrammetry. *Automation in Construction*, **2011**, 20, 884-895	9.6	123
120	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	7.4	111
119	Visual retrieval of concrete crack properties for automated post-earthquake structural safety evaluation. *Automation in Construction*, **2011**, 20, 874-883	9.6	111
118	Semantic Enrichment for Building Information Modeling. *Computer-Aided Civil and Infrastructure Engineering*, **2016**, 31, 261-274	8.4	95
117	Automated Pothole Distress Assessment Using Asphalt Pavement Video Data. *Journal of Computing in Civil Engineering*, **2013**, 27, 370-378	5	92
116	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	4.2	88
115	Comparative study of vision tracking methods for tracking of construction site resources. *Automation in Construction*, **2011**, 20, 905-915	9.6	81
114	Three-Dimensional Tracking of Construction Resources Using an On-Site Camera System. *Journal of Computing in Civil Engineering*, **2012**, 26, 541-549	5	75
113	Achievements and Challenges in Machine Vision-Based Inspection of Large Concrete Structures. *Advances in Structural Engineering*, **2014**, 17, 303-318	1.9	74
112	Concrete Column Recognition in Images and Videos. *Journal of Computing in Civil Engineering*, **2010**, 24, 478-487	5	70
111	Framework of aftershock fragility assessment□ase studies: older California reinforced concrete building frames. *Earthquake Engineering and Structural Dynamics*, **2015**, 44, 2617-2636	4	66

110	Neurofuzzy Genetic System for Selection of Construction Project Managers. *Journal of Construction Engineering and Management - ASCE*, **2011**, 137, 17-29	4.2	65
109	Comparison of Optical Sensor-Based Spatial Data Collection Techniques for Civil Infrastructure Modeling. *Journal of Computing in Civil Engineering*, **2009**, 23, 170-177	5	64
108	Continuous localization of construction workers via integration of detection and tracking. *Automation in Construction*, **2016**, 72, 129-142	9.6	61
107	Fragility curves for non-ductile reinforced concrete frames that exhibit different component response mechanisms. *Engineering Structures*, **2015**, 85, 127-143	4.7	57
106	Automated sparse 3D point cloud generation of infrastructure using its distinctive visual features. *Advanced Engineering Informatics*, **2011**, 25, 760-770	7.4	54
105	Construction with digital twin information systems. *Data-Centric Engineering*, **2020**, 1,	2.6	52
104	Machine Vision-Based Concrete Surface Quality Assessment. *Journal of Construction Engineering and Management - ASCE*, **2010**, 136, 210-218	4.2	52
103	Management and analysis of unstructured construction data types. *Advanced Engineering Informatics*, **2008**, 22, 15-27	7.4	52
102	Patch detection for pavement assessment. *Automation in Construction*, **2015**, 53, 95-104	9.6	50
101	Detection of large-scale concrete columns for automated bridge inspection. *Automation in Construction*, **2010**, 19, 1047-1055	9.6	50
100	Material-Based Construction Site Image Retrieval. *Journal of Computing in Civil Engineering*, **2005**, 19, 341-355	5	50
99	Automated Detection of Multiple Pavement Defects. *Journal of Computing in Civil Engineering*, **2017**, 31, 04016057	5	49
98	Innovative Stereo Vision-Based Approach to Generate Dense Depth Map of Transportation Infrastructure. *Transportation Research Record*, **2011**, 2215, 93-99	1.7	46
97	Construction site image retrieval based on material cluster recognition. *Advanced Engineering Informatics*, **2006**, 20, 443-452	7.4	46
96	Digital twinning of existing reinforced concrete bridges from labelled point clusters. *Automation in Construction*, **2019**, 105, 102837	9.6	45
95	SeeBridge as next generation bridge inspection: Overview, Information Delivery Manual and Model View Definition. *Automation in Construction*, **2018**, 90, 134-145	9.6	45
94	Optimized selection of key frames for monocular videogrammetric surveying of civil infrastructure. *Advanced Engineering Informatics*, **2013**, 27, 270-282	7.4	45
93	Shape-Based Retrieval of Construction Site Photographs. *Journal of Computing in Civil Engineering*, **2008**, 22, 14-20	5	45

92	Machine Vision-Enhanced Postearthquake Inspection. *Journal of Computing in Civil Engineering*, **2013**, 27, 622-634	5	41
91	Automated re-prefabrication system for buildings using robotics. *Automation in Construction*, **2017**, 83, 184-195	9.6	37
90	Multi-classifier for reinforced concrete bridge defects. *Automation in Construction*, **2019**, 105, 102824	9.6	35
89	Detection of Structural Components in Point Clouds of Existing RC Bridges. *Computer-Aided Civil and Infrastructure Engineering*, **2019**, 34, 191-212	8.4	35
88	Structural Performance Monitoring Using a Dynamic Data-Driven BIM Environment. *Journal of Computing in Civil Engineering*, **2018**, 32, 04018009	5	34
87	Generating Absolute-Scale Point Cloud Data of Built Infrastructure Scenes Using a Monocular Camera Setting. *Journal of Computing in Civil Engineering*, **2015**, 29, 04014089	5	34
86	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	8.4	34
85	Automated Damage Index Estimation of Reinforced Concrete Columns for Post-Earthquake Evaluations. *Journal of Structural Engineering*, **2015**, 141, 04014228	3	33
84	Civil Engineering Grand Challenges: Opportunities for Data Sensing, Information Analysis, and Knowledge Discovery. *Journal of Computing in Civil Engineering*, **2014**, 28, 04014013	5	33
83	Parameter optimization for automated concrete detection in image data. *Automation in Construction*, **2010**, 19, 944-953	9.6	31
82	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	9.6	30
81	Improving Road Asset Condition Monitoring. *Transportation Research Procedia*, **2016**, 14, 3004-3012	2.4	29
80	Matching Construction Workers across Views for Automated 3D Vision Tracking On-Site. *Journal of Construction Engineering and Management - ASCE*, **2018**, 144, 04018061	4.2	28
79	A videogrammetric as-built data collection method for digital fabrication of sheet metal roof panels. *Advanced Engineering Informatics*, **2013**, 27, 466-476	7.4	28
78	Building Information Modelling, Artificial Intelligence and Construction Tech. *Developments in the Built Environment*, **2020**, 4, 100011	5.1	27
77	Management of structural monitoring data of bridges using BIM. *Proceedings of the Institution of Civil Engineers: Bridge Engineering*, **2017**, 170, 204-218	0.5	26
76	Data-Fusion Approaches and Applications for Construction Engineering. *Journal of Construction Engineering and Management - ASCE*, **2011**, 137, 863-869	4.2	26
75	A Suitability Analysis of Precast Components for Standardized Bridge Construction in the United Kingdom. *Procedia Engineering*, **2016**, 164, 188-195		24

74	Adaptive computer vision-based 2D tracking of workers in complex environments. *Automation in Construction*, **2019**, 103, 168-184	9.6	23
73	Integrating RC Bridge Defect Information into BIM Models. *Journal of Computing in Civil Engineering* , **2018**, 32, 04018013	5	23
72	Visual Pattern Recognition Models for Remote Sensing of Civil Infrastructure. *Journal of Computing in Civil Engineering*, **2011**, 25, 388-393	5	21
71	Content-Based Search Engines for construction image databases. *Automation in Construction*, **2005**, 14, 537-550	9.6	20
70	Multimodal Image Retrieval from Construction Databases and Model-Based Systems. *Journal of Construction Engineering and Management - ASCE*, **2006**, 132, 777-785	4.2	19
69	Multistep Explicit Stereo Camera Calibration Approach to Improve Euclidean Accuracy of Large-Scale 3D Reconstruction. *Journal of Computing in Civil Engineering*, **2016**, 30, 04014120	5	16
68	Automated computation of the fundamental matrix for vision based construction site applications. *Advanced Engineering Informatics*, **2011**, 25, 725-735	7.4	15
67	Detecting healthy concrete surfaces. *Advanced Engineering Informatics*, **2018**, 37, 150-162	7.4	15
66	Prioritizing object types for modelling existing industrial facilities. *Automation in Construction*, **2018** , 96, 211-223	9.6	14
65	Real-Time Volume-to-Plane Comparison for Mixed Reality–Based Progress Monitoring. *Journal of Computing in Civil Engineering*, **2020**, 34, 04020016	5	13
64	CLOI-NET: Class segmentation of industrial facilities' point cloud datasets. *Advanced Engineering Informatics*, **2020**, 45, 101121	7.4	13
63	Automated Brick Counting for Façade Construction Progress Estimation. *Journal of Computing in Civil Engineering*, **2015**, 29, 04014091	5	13
62	Testing in harsh conditions: Tracking resources on construction sites with machine vision. *Automation in Construction*, **2011**, 20, 328-337	9.6	12
61	Road Design Layer Detection in Point Cloud Data for Construction Progress Monitoring. *Journal of Computing in Civil Engineering*, **2018**, 32, 04018029	5	12
60	A vision-based method for on-road truck height measurement in proactive prevention of collision with overpasses and tunnels. *Automation in Construction*, **2015**, 50, 29-39	9.6	11
59	Detection of Walls, Floors, and Ceilings in Point Cloud Data **2016**,		9
58	Detection of Construction Workers in Video Frames for Automatic Initialization of Vision Trackers **2012**,		9
57	Understanding the Problem of Bridge and Tunnel Strikes Caused by Over-height Vehicles. *Transportation Research Procedia*, **2016**, 14, 3915-3924	2.4	9

56	Detection of Railway Masts in Airborne LiDAR Data. *Journal of Construction Engineering and Management - ASCE*, **2020**, 146, 04020105	4.2	8
55	Real-Time Concrete Damage Visual Assessment for First Responders **2009**,		8
54	Enhancement of Construction Equipment Detection in Video Frames by Combining with Tracking **2012**,		7
53	A Framework for Automated Pavement Condition Monitoring **2016**,		7
52	Real-time validation of vision-based over-height vehicle detection system. *Advanced Engineering Informatics*, **2018**, 38, 67-80	7.4	6
51	Comparison of Image-Based and Time-of-Flight-Based Technologies for 3D Reconstruction of Infrastructure **2012**,		6
50	Digital technologies can enhance climate resilience of critical infrastructure. *Climate Risk Management*, **2022**, 35, 100387	4.6	6
49	Point Cloud Data Cleaning and Refining for 3D As-Built Modeling of Built Infrastructure **2016**,		6
48	Optimized Parameters for Over-Height Vehicle Detection under Variable Weather Conditions. *Journal of Computing in Civil Engineering*, **2017**, 31, 04017039	5	5
47	Automated Detection of Concrete Columns from Visual Data **2009**,		5
46	Comparison of Camera Motion Estimation Methods for 3D Reconstruction of Infrastructure **2011**,		5
45	Achievements and Challenges in Recognizing and Reconstructing Civil Infrastructure. *Lecture Notes in Computer Science*, **2012**, 151-176	0.9	5
44	Comparing Natural Language Processing Methods to Cluster Construction Schedules. *Journal of Construction Engineering and Management - ASCE*, **2021**, 147, 04021136	4.2	5
43	Automated Defect Detection For Masonry Arch Bridges **2019**,		4
42	Reducing Greenhouse Gas Emission of Construction Equipment at Construction Sites: Field Study Approach. *Journal of Construction Engineering and Management - ASCE*, **2019**, 145, 05019012	4.2	4
41	Identification of Materials from Construction Site Images Using Content Based Image Retrieval Techniques **2005**, 1		4
40	Entity Matching across Stereo Cameras for Tracking Construction Workers **2016**,		4
39	Recursive Segmentation for As-Is Bridge Information Modelling		4

38	Automated Detection of Exposed Reinforcement in Post-Earthquake Safety and Structural Evaluations **2011**,		4
37	State-of-Practice on As-Is Modelling of Industrial Facilities. *Lecture Notes in Computer Science*, **2018**, 103-124	0.4	4
36	Comprehensive Decision Support System for Managing Asphalt Pavements. *Journal of Transportation Engineering Part B: Pavements*, **2020**, 146, 06020001	1.4	4
35	3D Matching of Resource Vision Tracking Trajectories **2016**,		4
34	CLOI: A Shape Classification Benchmark Dataset for Industrial Facilities **2019**,		4
33	Mixed reality constructs a new frontier for maintaining the built environment. *Proceedings of the Institution of Civil Engineers: Civil Engineering*, **2017**, 170, 53-53	0.4	3
32	Comparison of Civil Infrastructure Optical-Based Spatial Data Acquisition Techniques **2007**,		3
31	Vision-based excavator pose estimation using synthetically generated datasets with domain randomization. *Automation in Construction*, **2022**, 134, 104089	9.6	3
30	Geometric Accuracy of Digital Twins for Structural Health Monitoring		3
29	Design and Data Modelling of Fibre Optic Systems to Monitor Reinforced Concrete Structural Elements **2016**,		2
28	A Transformational Approach to Explicit Stereo Camera Calibration for Improved Euclidean Accuracy of Infrastructure 3D Reconstruction **2013**,		2
27	Machine Vision Enhanced Post-Earthquake Inspection **2011**,		2
26	Comprehensive property retrieval and measurement of concrete spalling using machine vision for post-earthquake safety assessments **2012**,		2
25	Analysis of User Needs in Time-Related Risk Management for Holistic Project Understanding. *Journal of Construction Engineering and Management - ASCE*, **2022**, 148,	4.2	2
24	Improvements to Concrete Column Detection in Live Video **2010**,		2
23	Initializing Vision Based Trackers Using Semantic Texton Forests **2011**,		2
22	Digital Twinning of Existing Bridges from Labelled Point Clusters **2019**,		2
21	Automated Detection of Potholes in Visual Data **2011**,		2

20	Instance Segmentation of Industrial Point Cloud Data. *Journal of Computing in Civil Engineering*, **2021**, 35, 04021022	5	2
19	Machine Vision Techniques for Condition Assessment of Civil Infrastructure. *Advances in Computer Vision and Pattern Recognition*, **2015**, 351-375	1.1	2
18	Full-Body Occlusion Handling and Density Analysis in Traffic Video-Surveillance Systems. *Transportation Research Record*, **2014**, 2460, 58-65	1.7	1
17	A Novel Approach for Automated Selection of Key Video Frames for 3D Reconstruction of Civil Infrastructure **2012**,		1
16	Generating the sparse point cloud of a civil infrastructure scene using a single video camera under practical constraints **2011**,		1
15	Data Analysis on Complicated Construction Data Sources: Vision, Research, and Recent Developments. *Lecture Notes in Computer Science*, **2006**, 637-652	0.9	1
14	Reality Capture: Photography, Videos, Laser Scanning and Drones. *Structural Integrity*, **2022**, 443-469	0.2	1
13	Testing of Depth-Encoded Hough Voting for Infrastructure Object Detection **2012**,		1
12	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	0.5	0
11	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	0.5	0
10	CLOI: An Automated Benchmark Framework for Generating Geometric Digital Twins of Industrial Facilities. *Journal of Construction Engineering and Management - ASCE*, **2021**, 147, 04021145	4.2	0
9	Enriching geometric digital twins of buildings with small objects by fusing laser scanning and AI-based image recognition. *Automation in Construction*, **2022**, 140, 104375	9.6	0
8	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	5	
7	Computing in Civil Engineering□lessons Learned from the 2007 ASCE International Workshop on Computing in Civil Engineering. *Journal of Computing in Civil Engineering*, **2009**, 23, 1-1	5	
6	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	5	
5	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	5	
4	Construction schedule risk analysis □a hybrid machine learning approach. *Journal of Information Technology in Construction*, **2022**, 27, 70-93	2.5	
3	Automated On-site Retrieval of Project Information. *Lecture Notes in Computer Science*, **2006**, 92-100	0.9	

List of Publications

2 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

1 Computer Vision and Pattern Recognition Technologies for Construction189-209