Mani Golparvar-Fard

List of Publications by Year
in descending order

81 papers	4,592 citations	159358 30 h-index	168136 53 g-index
82 all docs	82 docs citations	82 times ranked	2213 citing authors

#	Article	IF	Citations
1	Visual monitoring of civil infrastructure systems via camera-equipped Unmanned Aerial Vehicles (UAVs): a review of related works. Visualization in Engineering, 2016, 4, .	8.8	342
2	Evaluation of image-based modeling and laser scanning accuracy for emerging automated performance monitoring techniques. Automation in Construction, 2011, 20, 1143-1155.	4.8	299
3	Automated Progress Monitoring Using Unordered Daily Construction Photographs and IFC-Based Building Information Models. Journal of Computing in Civil Engineering, 2015, 29, .	2.5	235
4	Vision-based action recognition of earthmoving equipment using spatio-temporal features and support vector machine classifiers. Advanced Engineering Informatics, 2013, 27, 652-663.	4.0	216
5	Visualization of Construction Progress Monitoring with 4D Simulation Model Overlaid on Time-Lapsed Photographs. Journal of Computing in Civil Engineering, 2009, 23, 391-404.	2.5	203
6	Target-free approach for vision-based structural system identification using consumer-grade cameras. Structural Control and Health Monitoring, 2016, 23, 1405-1416.	1.9	196
7	Construction performance monitoring via still images, time-lapse photos, and video streams: Now, tomorrow, and the future. Advanced Engineering Informatics, 2015, 29, 211-224.	4.0	195
8	Automated 2D detection of construction equipment and workers from site video streams using histograms of oriented gradients and colors. Automation in Construction, 2013, 32, 24-37.	4.8	183
9	Vision-based material recognition for automated monitoring of construction progress and generating building information modeling from unordered site image collections. Advanced Engineering Informatics, 2014, 28, 37-49.	4.0	174
10	Appearance-based material classification for monitoring of operation-level construction progress using 4D BIM and site photologs. Automation in Construction, 2015, 53, 44-57.	4.8	174
11	Integrated Sequential As-Built and As-Planned Representation with D4AR Tools in Support of Decision-Making Tasks in the AEC/FM Industry. Journal of Construction Engineering and Management - ASCE, 2011, 137, 1099-1116.	2.0	156
12	Potential of big visual data and building information modeling for construction performance analytics: An exploratory study. Automation in Construction, 2017, 73, 184-198.	4.8	155
13	Segmentation of building point cloud models including detailed architectural/structural features and MEP systems. Automation in Construction, 2015, 51, 32-45.	4.8	141
14	Mapping actual thermal properties to building elements in gbXML-based BIM for reliable building energy performance modeling. Automation in Construction, 2015, 49, 214-224.	4.8	139
15	Automated Methods for Activity Recognition of Construction Workers and Equipment: State-of-the-Art Review. Journal of Construction Engineering and Management - ASCE, 2020, 146, .	2.0	110
16	High-precision vision-based mobile augmented reality system for context-aware architectural, engineering, construction and facility management (AEC/FM) applications. Visualization in Engineering, 2013, 1, .	8.8	108
17	End-to-end vision-based detection, tracking and activity analysis of earthmoving equipment filmed at ground level. Automation in Construction, 2019, 105, 102811.	4.8	108
18	Vision-based workface assessment using depth images for activity analysis of interior construction operations. Automation in Construction, 2014, 48, 74-87.	4.8	91

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19	Geometry- and Appearance-Based Reasoning of Construction Progress Monitoring. Journal of Construction Engineering and Management - ASCE, 2018, 144, .	2.0	85
20	EPAR: Energy Performance Augmented Reality models for identification of building energy performance deviations between actual measurements and simulation results. Energy and Buildings, 2013, 63, 15-28.	3.1	71
21	Nonâ€Uniform Bâ€Spline Surface Fitting from Unordered 3D Point Clouds for Asâ€Built Modeling. Computer-Aided Civil and Infrastructure Engineering, 2016, 31, 483-498.	6.3	68
22	Formalized knowledge of construction sequencing for visual monitoring of work-in-progress via incomplete point clouds and low-LoD 4D BIMs. Advanced Engineering Informatics, 2015, 29, 889-901.	4.0	63
23	Human-object interaction recognition for automatic construction site safety inspection. Automation in Construction, 2020, 120, 103356.	4.8	62
24	Vision-Based Construction Worker Activity Analysis Informed by Body Posture. Journal of Computing in Civil Engineering, 2020, 34, .	2.5	60
25	Crowdsourcing Construction Activity Analysis from Jobsite Video Streams. Journal of Construction Engineering and Management - ASCE, 2015, 141, .	2.0	58
26	Automated Vision-Based Recognition of Construction Worker Actions for Building Interior Construction Operations Using RGBD Cameras. , 2012, , .		46
27	Segmentation and recognition of roadway assets from car-mounted camera video streams using a scalable non-parametric image parsing method. Automation in Construction, 2015, 49, 27-39.	4.8	45
28	Bridge Inspection with Aerial Robots: Automating the Entire Pipeline of Visual Data Capture, 3D Mapping, Defect Detection, Analysis, and Reporting. Journal of Computing in Civil Engineering, 2021, 35, .	2.5	44
29	ConstructAide. ACM Transactions on Graphics, 2014, 33, 1-11.	4.9	43
30	Monitoring changes of 3D building elements from unordered photo collections. , 2011, , .		41
31	Automated Diagnostics and Visualization of Potential Energy Performance Problems in Existing Buildings Using Energy Performance Augmented Reality Models. Journal of Computing in Civil Engineering, 2014, 28, 17-29.	2.5	40
32	Scan2BIM-NET: Deep Learning Method for Segmentation of Point Clouds for Scan-to-BIM. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	2.0	37
33	Segmentation of point clouds via joint semantic and geometric features for 3D modeling of the built environment. Automation in Construction, 2021, 125, 103584.	4.8	33
34	Geometry-Informed Material Recognition. , 2016, , .		32
35	Using Augmented Virtuality to Examine How Emotions Influence Construction-Hazard Identification, Risk Assessment, and Safety Decisions. Journal of Construction Engineering and Management - ASCE, 2020, 146, .	2.0	31
36	Synthesizing Pose Sequences from 3D Assets for Vision-Based Activity Analysis. Journal of Computing in Civil Engineering, 2021, 35, .	2.5	29

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37	Interactive Visual Construction Progress Monitoring with D⁴AR â€" 4D Augmented Reality â€" Models. , 2009, , .		28
38	Integrated Framework for Estimating, Benchmarking, and Monitoring Pollutant Emissions of Construction Operations. Journal of Construction Engineering and Management - ASCE, 2013, 139, .	2.0	26
39	Video-Based Motion Trajectory Forecasting Method for Proactive Construction Safety Monitoring Systems. Journal of Computing in Civil Engineering, 2020, 34, .	2.5	24
40	Transformer machine learning language model for auto-alignment of long-term and short-term plans in construction. Automation in Construction, 2021, 132, 103929.	4.8	24
41	Detecting and Classifying Cranes Using Camera-Equipped UAVs for Monitoring Crane-Related Safety Hazards. , 2017, , .		23
42	Automated Visual Recognition of Construction Equipment Actions Using Spatio-Temporal Features and Multiple Binary Support Vector Machines. , 2012, , .		20
43	Machine Learning-Based Risk Analysis for Construction Worker Safety from Ubiquitous Site Photos and Videos. Journal of Computing in Civil Engineering, 2021, 35, .	2.5	20
44	Modeling dynamic construction work template from existing scheduling records via sequential machine learning. Advanced Engineering Informatics, 2021, 47, 101198.	4.0	19
45	Automated Methods and Systems for Construction Planning and Scheduling: Critical Review of Three Decades of Research. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	2.0	19
46	Visual and Virtual Production Management System for Proactive Project Controls. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	2.0	16
47	Automatic Understanding of Construction Schedules: Part-of-Activity Tagging. , 2019, , .		16
48	Construction Progress Monitoring Using Cyber-Physical Systems. , 2020, , 63-87.		15
49	Automated Monitoring of Operation-level Construction Progress Using 4D BIM and Daily Site Photologs. , 2014, , .		14
50	Supporting Civil Engineers during Disaster Response and Recovery Using a Segway Mobile Workstation Chariot. Journal of Computing in Civil Engineering, 2012, 26, 448-455.	2.5	12
51	Automated Worker Activity Analysis in Indoor Environments for Direct-Work Rate Improvement from Long Sequences of RGB-D Images. , 2014, , .		12
52	Video-Based Detection and Classification of US Traffic Signs and Mile Markers using Color Candidate Extraction and Feature-Based Recognition. , 2014, , .		12
53	Crowdsourcing BIM-guided collection of construction material library from site photologs. Visualization in Engineering, 2017, 5, .	8.8	12
54	Multiobjective Optimization of Reality Capture Plans for Computer Visionâ€"Driven Construction Monitoring with Camera-Equipped UAVs. Journal of Computing in Civil Engineering, 2022, 36, .	2.5	12

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55	Fast and scalable 3D cyber-physical modeling for high-precision mobile augmented reality systems. Personal and Ubiquitous Computing, 2015, 19, 1275-1294.	1.9	11
56	4D BIM Based Optimal Flight Planning for Construction Monitoring Applications Using Camera-Equipped UAVs. , 2019, , .		10
57	Exploring the Potential of Image-Based 3D Geometry and Appearance Reasoning for Automated Construction Progress Monitoring. , 2019, , .		10
58	High-Precision and Infrastructure-Independent Mobile Augmented Reality System for Context-Aware Construction and Facility Management Applications. , 2013, , .		9
59	Developing a Thermal Comfort Report Card for Building. Procedia Engineering, 2015, 118, 675-682.	1.2	9
60	An Interactive Model-Driven Path Planning and Data Capture System for Camera-Equipped Aerial Robots on Construction Sites. , 2017, , .		9
61	Visual Data and Predictive Analytics for Proactive Project Controls on Construction Sites. Lecture Notes in Computer Science, 2018, , 412-430.	1.0	8
62	Model-Driven Visual Data Capture on Construction Sites: Method and Metrics of Success. , 2017, , .		7
63	Video-Based Activity Forecasting for Construction Safety Monitoring Use Cases. , 2019, , .		7
64	Metrics and methods for evaluating modelâ€driven reality capture plans. Computer-Aided Civil and Infrastructure Engineering, 2022, 37, 55-72.	6.3	7
65	Image-based retro-reflectivity measurement of traffic signs in day time. Advanced Engineering Informatics, 2015, 29, 1028-1040.	4.0	6
66	Characterizing Construction Equipment Activities in Long Video Sequences of Earthmoving Operations via Kinematic Features. , 2016, , .		6
67	Joint Reasoning of Visual and Text Data for Safety Hazard Recognition. , 2017, , .		6
68	InstaDam: Open-Source Platform for Rapid Semantic Segmentation of Structural Damage. Applied Sciences (Switzerland), 2021, 11, 520.	1.3	6
69	Learning and critiquing pairwise activity relationships for schedule quality control via deep learning-based natural language processing. Automation in Construction, 2022, 134, 104036.	4.8	6
70	Multi-Sample Image-Based Material Recognition and Formalized Sequencing Knowledge for Operation-Level Construction Progress Monitoring. , 2014, , .		5
71	Forwardâ€Backward Approach for 3D Event Localization Using Commodity Smartphones for Ubiquitous Contextâ€Aware Applications in Civil and Infrastructure Engineering. Computer-Aided Civil and Infrastructure Engineering, 2016, 31, 245-260.	6.3	5
72	Using Augmented Virtuality to Understand the Situational Awareness Model. , 2018, , .		5

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73	Semantic-Rich 3D CAD Models for Built Environments from Point Clouds: An End-to-End Procedure. , 2017, , .		4
74	Proactive Construction Project Controls via Predictive Visual Data Analytics. , 2017, , .		4
75	Enhanced Appearance-Based Material Classification for the Monitoring of Operation-Level Construction Progress through the Removal of Occlusions. , 2016, , .		3
76	Decentralized Visual 3D Mapping of Scattered Work Locations for High-Frequency Tracking of Indoor Construction Activities. , 2018, , .		3
77	Vision-Based Construction Activity Analysis in Long Video Sequences via Hidden Markov Models: Experiments on Earthmoving Operations. , 2018, , .		3
78	Annotating 2D Imagery with 3D Kinematically Configurable Assets of Construction Equipment for Training Pose-Informed Activity Analysis and Safety Monitoring Algorithms. , 2019, , .		3
79	BIM and Thermographic Sensing: Reflecting the As-is Building Condition in Energy Analysis. Journal of Construction Engineering and Project Management, 2015, 5, 16-22.	0.6	2
80	Improving Real-Time Construction Equipment Detection by Learning to Correct False Positives. , 2020, , .		0
81	Feasibility of an Integrated Heuristic and Machine Learning Approach for Schedule Health Monitoring in Construction. , 2022, , .		0