

James H Garrett

List of Publications by Year in descending order

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94
papers

3,242
citations

236925

25
h-index

168389

53
g-index

97
all docs

97
docs citations

97
times ranked

2613
citing authors

#	ARTICLE	IF	CITATIONS
1	Knowledge-Based Modeling of Material Behavior with Neural Networks. Journal of Engineering Mechanics - ASCE, 1991, 117, 132-153.	2.9	554
2	Use of neural networks in detection of structural damage. Computers and Structures, 1992, 42, 649-659.	4.4	427
3	Neural network-based screening for groundwater reclamation under uncertainty. Water Resources Research, 1993, 29, 563-574.	4.2	174
4	Intelligent light control using sensor networks. , 2005, , .		159
5	Semi-Supervised Multiresolution Classification Using Adaptive Graph Filtering With Application to Indirect Bridge Structural Health Monitoring. IEEE Transactions on Signal Processing, 2014, 62, 2879-2893.	5.3	144
6	Automated defect detection for sewer pipeline inspection and condition assessment. Automation in Construction, 2009, 18, 587-596.	9.8	109
7	Toward Data-Driven Structural Health Monitoring: Application of Machine Learning and Signal Processing to Damage Detection. Journal of Computing in Civil Engineering, 2013, 27, 667-680.	4.7	104
8	A knowledge-based standards processor for structural component design. Engineering With Computers, 1987, 2, 219-238.	6.1	65
9	Diagnosis algorithms for indirect structural health monitoring of a bridge model via dimensionality reduction. Mechanical Systems and Signal Processing, 2020, 136, 106454.	8.0	61
10	Indirect structural health monitoring of a simplified laboratory-scale bridge model. Smart Structures and Systems, 2014, 13, 849-868.	1.9	61
11	Algorithms for automated generation of navigation models from building information models to support indoor map-matching. Automation in Construction, 2016, 61, 24-41.	9.8	56
12	Track-monitoring from the dynamic response of an operational train. Mechanical Systems and Signal Processing, 2017, 87, 1-16.	8.0	52
13	Sensing and Field Data Capture for Construction and Facility Operations. Journal of Construction Engineering and Management - ASCE, 2011, 137, 870-881.	3.8	50
14	A density-based spatial clustering approach for defining local indicators of drinking water distribution pipe breakage. Advanced Engineering Informatics, 2011, 25, 380-389.	8.0	49
15	Analysis of Three Indoor Localization Technologies for Supporting Operations and Maintenance Field Tasks. Journal of Computing in Civil Engineering, 2012, 26, 708-719.	4.7	44
16	Detection of Patterns in Water Distribution Pipe Breakage Using Spatial Scan Statistics for Point Events in a Physical Network. Journal of Computing in Civil Engineering, 2011, 25, 21-30.	4.7	39
17	Data-Fusion Approaches and Applications for Construction Engineering. Journal of Construction Engineering and Management - ASCE, 2011, 137, 863-869.	3.8	38
18	Object-Oriented Model of Engineering Design Standards. Journal of Computing in Civil Engineering, 1992, 6, 323-347.	4.7	37

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19	Track monitoring from the dynamic response of a passing train: A sparse approach. Mechanical Systems and Signal Processing, 2017, 90, 141-153.	8.0	37
20	Visual Pattern Recognition Supporting Defect Reporting and Condition Assessment of Wastewater Collection Systems. Journal of Computing in Civil Engineering, 2009, 23, 160-169.	4.7	36
21	A framework for representing design intent. Design Studies, 1994, 15, 59-84.	3.1	35
22	A data fusion approach for track monitoring from multiple in-service trains. Mechanical Systems and Signal Processing, 2017, 95, 363-379.	8.0	33
23	Signal inpainting on graphs via total variation minimization. , 2014, , .		31
24	A neural network for image-based vehicle detection. Transportation Research Part C: Emerging Technologies, 1993, 1, 235-247.	7.6	29
25	An approach to combine progressively captured point clouds for BIM update. Advanced Engineering Informatics, 2015, 29, 1001-1012.	8.0	29
26	Managing Critical Infrastructure Interdependence through Economic Input-Output Methods. Journal of Infrastructure Systems, 2009, 15, 200-210.	1.8	28
27	Extending the information delivery manual approach to identify information requirements for performance analysis of HVAC systems. Advanced Engineering Informatics, 2013, 27, 496-505.	8.0	28
28	Engineering applications of neural networks. Journal of Intelligent Manufacturing, 1993, 4, 1-21.	7.3	26
29	Framework for Providing Customized Data Representations for Effective and Efficient Interaction with Mobile Computing Solutions on Construction Sites. Journal of Computing in Civil Engineering, 2005, 19, 109-118.	4.7	26
30	Knowledge based standards processing. Advanced Engineering Informatics, 1986, 1, 3-14.	0.5	25
31	Exploration and evaluation of AR, MPCA and KL anomaly detection techniques to embankment dam piezometer data. Advanced Engineering Informatics, 2015, 29, 902-917.	8.0	23
32	Formalism for Construction Inspection Planning: Requirements and Process Concept. Journal of Computing in Civil Engineering, 2007, 21, 29-38.	4.7	21
33	Knowledge-Based Standard-Independent Member Design. Journal of Structural Engineering, 1989, 115, 1396-1411.	3.4	20
34	CAD usage in an architectural office: from observations to active assistance. Automation in Construction, 1996, 5, 243-255.	9.8	20
35	A description logic approach for representing engineering design standards. Engineering With Computers, 1993, 9, 108-124.	6.1	19
36	Detection of free chloride in concrete by NMR. Cement and Concrete Research, 2004, 34, 379-390.	11.0	19

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37	Navigational Models for Computer Supported Project Management Tasks on Construction Sites. Journal of Computing in Civil Engineering, 2004, 18, 281-290.	4.7	18
38	Building-Information-Modeling-Based Earthquake Damage Assessment for Reinforced Concrete Walls. Journal of Computing in Civil Engineering, 2016, 30, .	4.7	18
39	Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection. Journal of Computing in Civil Engineering, 2003, 17, 209-218.	4.7	16
40	Damage Detection in Pipes under Changing Environmental Conditions Using Embedded Piezoelectric Transducers and Pattern Recognition Techniques. Journal of Pipeline Systems Engineering and Practice, 2013, 4, 17-23.	1.6	15
41	Evaluation of Different Features for Matching Point Clouds to Building Information Models. Journal of Computing in Civil Engineering, 2016, 30, .	4.7	15
42	A neural network-based machine learning approach for supporting synthesis. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 1994, 8, 143-161.	1.1	14
43	Application of Mellin transform features for robust ultrasonic guided wave structural health monitoring. AIP Conference Proceedings, 2012, , .	0.4	14
44	Information requirements for earthquake damage assessment of structural walls. Advanced Engineering Informatics, 2016, 30, 54-64.	8.0	13
45	Machine learning for simulation-based support of early collaborative design. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 1998, 12, 123-139.	1.1	11
46	Data Management for Geospatial Vulnerability Assessment of Interdependencies in U.S. Power Generation. Journal of Infrastructure Systems, 2009, 15, 179-189.	1.8	11
47	Semi-automated model matching using version difference. Advanced Engineering Informatics, 2009, 23, 1-11.	8.0	11
48	Delivering the Infrastructure for Digital Building Regulations. Journal of Computing in Civil Engineering, 2014, 28, 167-169.	4.7	11
49	Characterization of Laser Scanners for Detecting Cracks for Post-Earthquake Damage Inspection. , 2013, , .		11
50	A Knowledge Discovery Framework for Civil Infrastructure: A Case Study of the Intelligent Workplace. Engineering With Computers, 2000, 16, 264-274.	6.1	10
51	Automated Procedure to Assess Civil Infrastructure Data Quality: Method and Validation. Journal of Infrastructure Systems, 2005, 11, 180-189.	1.8	10
52	Robust change detection in highly dynamic guided wave signals with singular value decomposition. , 2012, , .		10
53	Proactive Productivity Management at Job Sites: Understanding Characteristics of Assumptions Made for Construction Processes during Planning Based on Case Studies and Interviews. Journal of Construction Engineering and Management - ASCE, 2014, 140, .	3.8	10
54	Multiresolution classification with semi-supervised learning for indirect bridge structural health monitoring. , 2013, , .		9

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55	Effects of Positioning Data Quality and Navigation Models on Map-Matching of Indoor Positioning Data. Journal of Computing in Civil Engineering, 2016, 30, 04014113.	4.7	9
56	A damage localization and quantification algorithm for indirect structural health monitoring of bridges using multi-task learning. AIP Conference Proceedings, 2019, , .	0.4	9
57	Wearable computers for field inspectors: Delivering data and knowledge-based support in the field. Lecture Notes in Computer Science, 1998, , 146-164.	1.3	9
58	Formalism for Detecting Version Differences in Data Models. Journal of Computing in Civil Engineering, 2007, 21, 321-330.	4.7	8
59	Imagery enhancement and interpretation for remote visual inspection of aging civil infrastructure. Tsinghua Science and Technology, 2008, 13, 375-380.	6.1	8
60	Automated planning support for on-site construction inspection. Automation in Construction, 2008, 17, 705-718.	9.8	8
61	Knowledge-Based System for Design of Signalized Intersections. Journal of Transportation Engineering, 1992, 118, 241-257.	0.9	7
62	Standards Modeling Language. Journal of Computing in Civil Engineering, 1998, 12, 129-135.	4.7	7
63	Standards Usage Language (SUL). Journal of Computing in Civil Engineering, 2001, 15, 118-128.	4.7	7
64	Fault perturbations in building sensor network data streams. International Journal of Sensor Networks, 2010, 7, 152.	0.4	7
65	Sensor Data Driven Proactive Management of Infrastructure Systems. Lecture Notes in Computer Science, 2006, , 262-284.	1.3	7
66	Detecting anomalies in longitudinal elevation of track geometry using train dynamic responses via a variational autoencoder. , 2019, , .		7
67	Providing Formal Support for Standards Usage Within SEED. Journal of Architectural Engineering, 1995, 1, 187-194.	1.6	6
68	XML-Based Inspection Modeling for Developing Field Inspection Support Systems. Journal of Infrastructure Systems, 2005, 11, 190-200.	1.8	6
69	Web-Vacuum: Web-Based Environment for Automated Assessment of Civil Infrastructure Data. Journal of Computing in Civil Engineering, 2005, 19, 137-147.	4.7	6
70	Singular value decomposition for novelty detection in ultrasonic pipe monitoring. Proceedings of SPIE, 2013, , .	0.8	6
71	Domain-Specific Querying Formalisms for Retrieving Information about HVAC Systems. Journal of Computing in Civil Engineering, 2014, 28, 40-49.	4.7	6
72	Knowledge-Based Advisory System for Public Sector Design-Build. Journal of Computing in Civil Engineering, 1992, 6, 456-471.	4.7	5

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73	An integrated performance analysis framework for HVAC systems using heterogeneous data models and building automation systems. , 2012, , .		5
74	Dynamic responses, GPS positions and environmental conditions of two light rail vehicles in Pittsburgh. Scientific Data, 2019, 6, 146.	5.3	5
75	Application of knowledge-based system techniques to standards representation and usage. Building and Environment, 1990, 25, 241-251.	6.9	4
76	SYMBOL RECOGNITION IN A CAD ENVIRONMENT USING A NEURAL NETWORK. International Journal on Artificial Intelligence Tools, 1994, 03, 157-185.	1.0	4
77	Java-Based Regulation Broker. Journal of Computing in Civil Engineering, 2000, 14, 100-108.	4.7	4
78	Speech-Controlled Wearable Computers for Automotive Shop Workers. , 2001, , .		4
79	Characterization and Search of Construction Inspection Plan Spaces Developed Using a Component-Based Planning Approach. Journal of Computing in Civil Engineering, 2009, 23, 211-220.	4.7	4
80	Closure to "Knowledge-Based Modeling of Material Behavior with Neural Networks" by J. Chaboussi, J. H. Garrett Jr. and X. Wu (January, 1991, Vol. 117, No. 1). Journal of Engineering Mechanics - ASCE, 1992, 118, 1059-1059.	2.9	3
81	Computer Tools to Facilitate Brownfield Development. Public Works Management Policy, 1998, 2, 231-242.	1.2	3
82	Information Technology in Civil Engineering"Future Trends. Journal of Computing in Civil Engineering, 2004, 18, 185-186.	4.7	3
83	Formalism for Applying Domain Constraints in Domain-Oriented Schema Matching. Journal of Computing in Civil Engineering, 2008, 22, 170-180.	4.7	3
84	Single Antenna Time Reversal of Guided Waves in Pipelines. Proceedings of Meetings on Acoustics, 2009, , .	0.3	2
85	Imputation of missing sensor data values using in-exact replicas. International Journal of Intelligent Systems Technologies and Applications, 2009, 7, 4.	0.2	2
86	Cognitive sensor networks for structure defect monitoring and classification using guided wave signals. , 2010, , .		2
87	Identification of information requirements using simulation for supporting construction productivity assessment. , 2010, , .		2
88	Special Issue on Computer Aided Engineering in Honor of Professor Steven J. Fenves. Engineering With Computers, 2001, 17, 93-94.	6.1	1
89	The New Editors and Their Plans for the Journal of Computing in Civil Engineering. Journal of Computing in Civil Engineering, 2008, 22, 231-232.	4.7	1
90	The computer-aided engineer: Prospects and risks. Artificial Intelligence for Engineering Design, Analysis and Manufacturing: AIEDAM, 1998, 12, 61-63.	1.1	0

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91	Special Issue on Computer Aided Engineering in Honor of Professor Steven J. Fenves. Engineering With Computers, 2000, 16, 145-146.	6.1	0
92	Information and Communication Technology in Structural Engineering: An Introduction. Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE), 2005, 15, 122-122.	0.8	0
93	Progress Manager: IT-Support for Progress Data Collection on Construction Sites. Structural Engineering International: Journal of the International Association for Bridge and Structural Engineering (IABSE), 2005, 15, 135-138.	0.8	0
94	Publication of Educational Notes in the Journal of Computing in Civil Engineering. Journal of Computing in Civil Engineering, 2012, 26, 561-561.	4.7	0