Sung Han Sim

List of Publications by Year
in descending order

97 papers	2,965 citations	185998 28 h-index	168136 53 g-index
97 all docs	97 docs citations	97 times ranked	2135 citing authors

#	Article	IF	Citations
1	Structural health monitoring of a cable-stayed bridge using smart sensor technology: deployment and evaluation. Smart Structures and Systems, 2010, 6, 439-459.	1.9	361
2	Flexible smart sensor framework for autonomous structural health monitoring. Smart Structures and Systems, 2010, 6, 423-438.	1.9	189
3	Crack and Noncrack Classification from Concrete Surface Images Using Machine Learning. Structural Health Monitoring, 2019, 18, 725-738.	4.3	175
4	Recent progress and future trends on damage identification methods for bridge structures. Structural Control and Health Monitoring, 2019, 26, e2416.	1.9	162
5	Comparative analysis of image binarization methods for crack identification in concrete structures. Cement and Concrete Research, 2017, 99, 53-61.	4.6	144
6	Concrete Crack Identification Using a UAV Incorporating Hybrid Image Processing. Sensors, 2017, 17, 2052.	2.1	143
7	Issues in structural health monitoring employing smart sensors. Smart Structures and Systems, 2007, 3, 299-320.	1.9	121
8	Displacement Estimation Using Multimetric Data Fusion. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1675-1682.	3.7	101
9	Development of a Wireless Displacement Measurement System Using Acceleration Responses. Sensors, 2013, 13, 8377-8392.	2.1	75
10	Recent advances in wireless smart sensors for multi-scale monitoring and control of civil infrastructure. Journal of Civil Structural Health Monitoring, 2016, 6, 17-41.	2.0	74
11	Long-term displacement measurement of full-scale bridges using camera ego-motion compensation. Mechanical Systems and Signal Processing, 2020, 140, 106651.	4.4	64
12	Computer Vision-Based Structural Displacement Measurement Robust to Light-Induced Image Degradation for In-Service Bridges. Sensors, 2017, 17, 2317.	2.1	63
13	Principles and Applications of Ultrasonic-Based Nondestructive Methods for Self-Healing in Cementitious Materials. Materials, 2017, 10, 278.	1.3	60
14	Feasibility of displacement monitoring using low-cost GPS receivers. Structural Control and Health Monitoring, 2013, 20, 1240-1254.	1.9	59
15	Decentralized random decrement technique for efficient data aggregation and system identification in wireless smart sensor networks. Probabilistic Engineering Mechanics, 2011, 26, 81-91.	1.3	57
16	Development and Application of High-Sensitivity Wireless Smart Sensors for Decentralized Stochastic Modal Identification. Journal of Engineering Mechanics - ASCE, 2012, 138, 683-694.	1.6	55
17	A wireless smart sensor network for automated monitoring of cable tension. Smart Materials and Structures, 2014, 23, 025006.	1.8	48
18	Enabling framework for structural health monitoring using smart sensors. Structural Control and Health Monitoring, 2011, 18, 574-587.	1.9	47

#	Article	IF	Citations
19	Automated decentralized modal analysis using smart sensors. Structural Control and Health Monitoring, 2010, 17, 872-894.	1.9	46
20	Wireless displacement sensing system for bridges using multi-sensor fusion. Smart Materials and Structures, 2014, 23, 045022.	1.8	46
21	Automated bridge component recognition from point clouds using deep learning. Structural Control and Health Monitoring, 2020, 27, e2591.	1.9	45
22	Multimetric Sensing for Structural Damage Detection. Journal of Engineering Mechanics - ASCE, 2011, 137, 22-30.	1.6	42
23	Longâ€term displacement measurement of bridges using a LiDAR system. Structural Control and Health Monitoring, 2019, 26, e2428.	1.9	35
24	Extension of indirect displacement estimation method using acceleration and strain to various types of beam structures. Smart Structures and Systems, 2014, 14, 699-718.	1.9	35
25	Displacement estimation of bridge structures using data fusion of acceleration and strain measurement incorporating finite element model. Smart Structures and Systems, 2015, 15, 645-663.	1.9	34
26	Flood fragility analysis for bridges with multiple failure modes. Advances in Mechanical Engineering, 2017, 9, 168781401769641.	0.8	33
27	Performance assessment method for crack repair in concrete using PZT-based electromechanical impedance technique. NDT and E International, 2019, 104, 90-97.	1.7	32
28	Prediction Model for Mechanical Properties of Lightweight Aggregate Concrete Using Artificial Neural Network. Materials, 2019, 12, 2678.	1.3	31
29	Automated peak picking using regionâ€based convolutional neural network for operational modal analysis. Structural Control and Health Monitoring, 2019, 26, e2436.	1.9	31
30	Reference-Free Displacement Estimation of Bridges Using Kalman Filter-Based Multimetric Data Fusion. Journal of Sensors, 2016, 2016, 1-9.	0.6	28
31	Experimental validation of Kalman filter-based strain estimation in structures subjected to non-zero mean input. Smart Structures and Systems, 2015, 15, 489-503.	1.9	27
32	Traffic Safety Evaluation for Railway Bridges Using Expanded Multisensor Data Fusion. Computer-Aided Civil and Infrastructure Engineering, 2016, 31, 749-760.	6.3	26
33	Analysis of vibration for regions above rectangular delamination defects in solids. Journal of Sound and Vibration, 2013, 332, 1766-1776.	2.1	25
34	Fully automated peak-picking method for an autonomous stay-cable monitoring system in cable-stayed bridges. Automation in Construction, 2021, 126, 103628.	4.8	23
35	Automated concrete crack evaluation using stereo vision with two different focal lengths. Automation in Construction, 2022, 135, 104136.	4.8	23
36	Hybrid wireless smart sensor network for full-scale structural health monitoring of a cable-stayed bridge. Proceedings of SPIE, 2011, , .	0.8	19

#	Article	IF	Citations
37	A Novelty Detection Approach for Tendons of Prestressed Concrete Bridges Based on a Convolutional Autoencoder and Acceleration Data. Sensors, 2019, 19, 1633.	2.1	18
38	LiDAR-Based Bridge Displacement Estimation Using 3D Spatial Optimization. Sensors, 2020, 20, 7117.	2.1	17
39	Decentralized System Identification Using Stochastic Subspace Identification for Wireless Sensor Networks. Sensors, 2015, 15, 8131-8145.	2.1	16
40	Automated wireless monitoring system for cable tension forces using deep learning. Structural Health Monitoring, 2021, 20, 1805-1821.	4.3	16
41	Virtual laboratory for experimental structural dynamics. Computer Applications in Engineering Education, 2009, 17, 80-88.	2.2	15
42	Crack identification method for concrete structures considering angle of view using RGB-D camera-based sensor fusion. Structural Health Monitoring, 2021, 20, 500-512.	4.3	15
43	Reliability-based evaluation of the performance of the damage locating vector method. Probabilistic Engineering Mechanics, 2008, 23, 489-495.	1.3	14
44	Data fusion of acceleration and angular velocity for improved model updating. Measurement: Journal of the International Measurement Confederation, 2016, 91, 239-250.	2.5	14
45	Recent R&D activities on structural health monitoring in Korea. Structural Monitoring and Maintenance, 2016, 3, 91-114.	1.7	14
46	A new methodology development for flood fragility curve derivation considering structural deterioration for bridges. Smart Structures and Systems, 2016, 17, 149-165.	1.9	14
47	Data fusion-based damage identification for a monopile offshore wind turbine structure using wireless smart sensors. Ocean Engineering, 2020, 195, 106728.	1.9	13
48	Full-scale experimental validation of decentralized damage identification using wireless smart sensors. Smart Materials and Structures, 2012, 21, 115019.	1.8	12
49	Field experiment on a PSC-I bridge for convolutional autoencoder-based damage detection. Structural Health Monitoring, 2021, 20, 1627-1643.	4.3	12
50	A decentralized receptance-based damage detection strategy for wireless smart sensors. Smart Materials and Structures, 2012, 21, 055017.	1.8	11
51	Characterization of Porous Cementitious Materials Using Microscopic Image Processing and X-ray CT Analysis. Materials, 2020, 13, 3105.	1.3	11
52	Automated Damage Localization and Quantification in Concrete Bridges Using Point Cloud-Based Surface-Fitting Strategy. Journal of Computing in Civil Engineering, 2021, 35, .	2.5	11
53	Surface-Wave Based Model for Estimation of Discontinuity Depth in Concrete. Sensors, 2018, 18, 2793.	2.1	9
54	Estimation of flexibility matrix of beam structures using multisensor fusion. Journal of Structural Integrity and Maintenance, 2016, 1, 60-64.	0.7	8

#	Article	IF	Citations
55	Uniaxial Static Stress Estimation for Concrete Structures Using Digital Image Correlation. Sensors, 2019, 19, 319.	2.1	8
56	A hybrid electromagnetic energy harvesting device for low frequency vibration. , 2013, , .		7
57	Stress Estimation Using Digital Image Correlation with Compensation of Camera Motion-Induced Error. Sensors, 2019, 19, 5503.	2.1	7
58	Rheology-based determination of injectable grout fluidity for preplaced aggregate concrete using ultrasonic tomography. Construction and Building Materials, 2020, 260, 120447.	3.2	7
59	Monitoring of self-healing in concrete with micro-capsules using a combination of air-coupled surface wave and computer-vision techniques. Structural Health Monitoring, 2022, 21, 1661-1677.	4.3	7
60	Wireless sensor network for decentralized damage detection of building structures. Smart Structures and Systems, 2013, 12, 399-414.	1.9	7
61	Automated decentralized smart sensor network for modal analysis. , 2009, , .		6
62	Serviceability Assessment Method of Stay Cables with Vibration Control Using First-Passage Probability. Mathematical Problems in Engineering, 2019, 2019, 1-9.	0.6	6
63	Bayesian Prediction of Pre-Stressed Concrete Bridge Deflection Using Finite Element Analysis. Sensors, 2019, 19, 4956.	2.1	6
64	Automated Real-Time Assessment of Stay-Cable Serviceability Using Smart Sensors. Applied Sciences (Switzerland), 2019, 9, 4469.	1.3	6
65	Prediction of Static Modulus and Compressive Strength of Concrete from Dynamic Modulus Associated with Wave Velocity and Resonance Frequency Using Machine Learning Techniques. Materials, 2020, 13, 2886.	1.3	6
66	Nontarget-Based Measurement of 6-DOF Structural Displacement Using Combined RGB Color and Depth Information. IEEE/ASME Transactions on Mechatronics, 2021, 26, 1358-1368.	3.7	6
67	A machine learning procedure for seismic qualitative assessment and design of structures considering safety and serviceability. Journal of Building Engineering, 2022, 50, 104190.	1.6	6
68	Development of temperature-robust damage factor based on sensor fusion for a wind turbine structure. Frontiers of Structural and Civil Engineering, 2015, 9, 42-47.	1.2	5
69	Probabilistic Assessment of High-Throughput Wireless Sensor Networks. Sensors, 2016, 16, 792.	2.1	5
70	Applicability of Diffuse Ultrasound to Evaluation of the Water Permeability and Chloride Ion Penetrability of Cracked Concrete. Sensors, 2018, 18, 4156.	2.1	5
71	Individual Disaster Assistance For Socially Vulnerable People: Lessons Learned From the Pohang Earthquake in the Republic of Korea. Risk Analysis, 2020, 40, 2373-2389.	1.5	4
72	Framework for characterizing the time-dependent volumetric properties of aerated cementitious material. Construction and Building Materials, 2021, 284, 122781.	3.2	4

#	Article	IF	Citations
73	Dynamic Behavior of Composite Steel Girder Bridge Exceeding Train Speed 350km/h. Journal of the Korea Academia-Industrial Cooperation Society, 2013, 14, 3518-3527.	0.0	4
74	On-site Performance Evaluation of a Vision-based Displacement Measurement System. Journal of the Korea Academia-Industrial Cooperation Society, 2014, 15, 5854-5860.	0.0	4
75	Decentralized bridge health monitoring using wireless smart sensors. Proceedings of SPIE, 2010, , .	0.8	3
76	Full-scale decentralized damage identification using wireless smart sensors. , 2011, , .		3
77	Smart One-Channel Sensor Node for Ambient Vibration Test with Applications to Structural Health Monitoring of Large Civil Infrastructures. International Journal of Distributed Sensor Networks, 2015, 11, 691565.	1.3	3
78	Issues in structural health monitoring for fixed-type offshore structures under harsh tidal environments. Smart Structures and Systems, 2015, 15, 335-353.	1.9	3
79	Damage-Detection Approach for Bridges with Multi-Vehicle Loads Using Convolutional Autoencoder. Sensors, 2022, 22, 1839.	2.1	3
80	Decentralized system identification using stochastic subspace identification on wireless smart sensor networks. , 2012, , .		2
81	Integrated cable vibration control system using wireless sensors. Proceedings of SPIE, 2017, , .	0.8	2
82	Equivalent neutral axis for structural condition assessment using multi-sensor fusion. Engineering Structures, 2019, 197, 109350.	2.6	2
83	A New Probabilistic Framework for Structural System Fragility and Sensitivity Analysis of Concrete Gravity Dams. KSCE Journal of Civil Engineering, 2019, 23, 3592-3605.	0.9	2
84	Evaluation of Cable Tension Forces Using Vibration Method for a Cable-stayed Bridge under Construction. Journal of the Korean Society of Safety, 2014, 29, 38-44.	0.0	2
85	Sensor data-based probabilistic monitoring of time-history deflections of railway bridges induced by high-speed trains. Structural Health Monitoring, 2022, 21, 2518-2530.	4.3	2
86	Efficient decentralized data aggregation in wireless smart sensor networks. Proceedings of SPIE, 2010, , .	0.8	1
87	Special Issue on â€œSmart City and Smart Infrastructureâ€. Sensors, 2021, 21, 7064.	2.1	1
88	Flood fragility analysis of bridge piers in consideration of debris impacts. Journal of the Korea Academia-Industrial Cooperation Society, 2016, 17, 325-331.	0.0	1
89	Modal Analysis of Simply Supported Plate Using Wireless Smart Sensor Networks. Applied Mechanics and Materials, 0, 94-96, 1022-1025.	0.2	0
90	Damage identification research of elastic plate by means of DLV based approach. , 2011, , .		0

#	Article	IF	Citations
91	Dynamic Displacement Estimation from Acceleration Measurements Using a Wireless Smart Sensor. Key Engineering Materials, 2013, 558, 227-234.	0.4	0
92	Automated wireless monitoring system for cable tension using smart sensors. , 2013, , .		0
93	Multisensor fusion for system identification. , 2014, , .		0
94	Reconstruction of Unmeasured Strain Responses in Bottom-fixed Offshore Structures by Multimetric Sensor Data Fusion. Procedia Engineering, 2017, 188, 96-101.	1.2	0
95	Decentralized Random Decrement Technique for Data Aggregation and System Identification in Wireless Smart Sensor Networks. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2011, , 305-314.	0.1	0
96	Impact Assessment of Bridge Damage Detection Based on Deep Learning According to Number and Location of Accelerometer Installations. Korean Society of Hazard Mitigation, 2021, 21, 183-190.	0.1	0
97	Camera Motion-Induced Error Compensation for Computer Vision- Based Displacement Measurement. , 2020, , .		0