Changbum R Ahn

List of Publications by Year
in descending order

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94 papers	2,443 citations	185998 28 h-index	233125 45 g-index
95 all docs	95 docs citations	95 times ranked	1410 citing authors

#	Article	IF	Citations
1	Wearable Sensing Technology Applications in Construction Safety and Health. Journal of Construction Engineering and Management - ASCE, 2019, 145, .	2.0	142
2	Semi-supervised near-miss fall detection for ironworkers with a wearable inertial measurement unit. Automation in Construction, 2016, 68, 194-202.	4.8	137
3	Construction worker's awkward posture recognition through supervised motion tensor decomposition. Automation in Construction, 2017, 77, 67-81.	4.8	129
4	Impact assessment of reinforced learning methods on construction workers' fall risk behavior using virtual reality. Automation in Construction, 2019, 104, 197-214.	4.8	129
5	Fall risk analysis of construction workers using inertial measurement units: Validating the usefulness of the postural stability metrics in construction. Safety Science, 2016, 84, 161-170.	2.6	115
6	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
7	Collective sensing of workers' gait patterns to identify fall hazards in construction. Automation in Construction, 2017, 82, 166-178.	4.8	98
8	Comprehensive Fall-Risk Assessment of Construction Workers Using Inertial Measurement Units: Validation of the Gait-Stability Metric to Assess the Fall Risk of Iron Workers. Journal of Computing in Civil Engineering, 2016, 30, .	2.5	81
9	Application of dynamic time warping to the recognition of mixed equipment activities in cycle time measurement. Automation in Construction, 2018, 87, 225-234.	4.8	81
10	A Review of Approaches for Sensing, Understanding, and Improving Occupancy-Related Energy-Use Behaviors in Commercial Buildings. Energies, 2015, 8, 10996-11029.	1.6	66
11	Assessing occupantsâ€™ energy load variation through existing wireless network infrastructure in commercial and educational buildings. Energy and Buildings, 2014, 82, 540-549.	3.1	64
12	Application of Low-Cost Accelerometers for Measuring the Operational Efficiency of a Construction Equipment Fleet. Journal of Computing in Civil Engineering, 2015, 29, .	2.5	59
13	Identifying Safety Hazards Using Collective Bodily Responses of Workers. Journal of Construction Engineering and Management - ASCE, 2017, 143, .	2.0	56
14	Importance of Operational Efficiency to Achieve Energy Efficiency and Exhaust Emission Reduction of Construction Operations. Journal of Construction Engineering and Management - ASCE, 2013, 139, 404-413.	2.0	48
15	Linking building energy consumption with occupantsâ€™ energy-consuming behaviors in commercial buildings: Non-intrusive occupant load monitoring (NIOLM). Energy and Buildings, 2018, 172, 317-327.	3.1	44
16	Detecting excessive load-carrying tasks using a deep learning network with a Gramian Angular Field. Automation in Construction, 2020, 120, 103390.	4.8	44
17	Deep learning-based classification of work-related physical load levels in construction. Advanced Engineering Informatics, 2020, 45, 101104.	4.0	37
18	Wearable Biosensor and Hotspot Analysisâ€“Based Framework to Detect Stress Hotspots for Advancing Elderlyâ€™s Mobility. Journal of Management in Engineering - ASCE, 2020, 36, .	2.6	36

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19	Toward Environmentally Sustainable Construction Processes: The U.S. and Canadaâ€™s Perspective on Energy Consumption and GHG/CAP Emissions. Sustainability, 2010, 2, 354-370.	1.6	35
20	Capturing and quantifying emotional distress in the built environment. , 2018, , .		35
21	Predicting workersâ€™ inattentiveness to struck-by hazards by monitoring biosignals during a construction task: A virtual reality experiment. Advanced Engineering Informatics, 2021, 49, 101359.	4.0	35
22	Linking Building Energy-Load Variations with Occupantsâ€™ Energy-Use Behaviors in Commercial Buildings: Non-Intrusive Occupant Load Monitoring (NIOLM). Procedia Engineering, 2016, 145, 532-539.	1.2	34
23	Validating ambulatory gait assessment technique for hazard sensing in construction environments. Automation in Construction, 2019, 98, 302-309.	4.8	34
24	Life-Cycle Assessment of Concrete Dam Construction: Comparison of Environmental Impact of Rock-Filled and Conventional Concrete. Journal of Construction Engineering and Management - ASCE, 2013, 139, .	2.0	33
25	Inferring workplace safety hazards from the spatial patterns of workersâ€™ wearable data. Advanced Engineering Informatics, 2019, 41, 100924.	4.0	32
26	The Effects of Housing Environments on the Performance of Activity-Recognition Systems Using Wi-Fi Channel State Information: An Exploratory Study. Sensors, 2019, 19, 983.	2.1	32
27	The influence of built environment features on crowdsourced physiological responses of pedestrians in neighborhoods. Computers, Environment and Urban Systems, 2019, 75, 161-169.	3.3	31
28	Automated Detection of Near-miss Fall Incidents in Iron Workers Using Inertial Measurement Units. , 2014, , .		30
29	A people-centric sensing approach to detecting sidewalk defects. Advanced Engineering Informatics, 2016, 30, 660-671.	4.0	30
30	Application of knowledge management technologies in Korean small and medium-sized construction companies. KSCE Journal of Civil Engineering, 2013, 17, 22-32.	0.9	29
31	A Hybrid Kinematic-Acoustic System for Automated Activity Detection of Construction Equipment. Sensors, 2019, 19, 4286.	2.1	29
32	Assessing the effects of slippery steel beam coatings to ironworkers' gait stability. Applied Ergonomics, 2018, 68, 72-79.	1.7	28
33	Integrated Framework for Estimating, Benchmarking, and Monitoring Pollutant Emissions of Construction Operations. Journal of Construction Engineering and Management - ASCE, 2013, 139, .	2.0	26
34	Wearable Biosensor and Collective Sensingâ€“Based Approach for Detecting Older Adultsâ€™ Environmental Barriers. Journal of Computing in Civil Engineering, 2020, 34, .	2.5	23
35	Sustainability analysis of earthmoving operations. , 2009, , .		22
36	Carbon Footprints Analysis for Tunnel Construction Processes in the Preplanning Phase Using Collaborative Simulation. , 2010, , .		22

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37	Saliency detection analysis of collective physiological responses of pedestrians to evaluate neighborhood built environments. Advanced Engineering Informatics, 2020, 43, 101035.	4.0	21
38	The Validation of Gait-Stability Metrics to Assess Construction Workers' Fall Risk. , 2014, , .		19
39	Fine-grained occupant activity monitoring with Wi-Fi channel state information: Practical implementation of multiple receiver settings. Advanced Engineering Informatics, 2020, 46, 101147.	4.0	19
40	Delegation or Collaboration: Understanding Different Construction Stakeholdersâ€™ Perceptions of Robotization. Journal of Management in Engineering - ASCE, 2022, 38, .	2.6	19
41	Consideration of the Environmental Cost in Construction Contracting for Public Works: A+C and A+B+C Bidding Methods. Journal of Management in Engineering - ASCE, 2013, 29, 86-94.	2.6	17
42	Understanding the recurring patterns of occupants' energy-use behaviors at entry and departure events in office buildings. Building and Environment, 2018, 136, 77-87.	3.0	17
43	Monitoring System for Operational Efficiency and Environmental Performance of Construction Operations Using Vibration Signal Analysis. , 2012, , .		16
44	Reducing Greenhouse Gas Emission of Construction Equipment at Construction Sites: Field Study Approach. Journal of Construction Engineering and Management - ASCE, 2019, 145, .	2.0	16
45	Reducing Risk Habituation to Struck-By Hazards in a Road Construction Environment Using Virtual Reality Behavioral Intervention. Journal of Construction Engineering and Management - ASCE, 2021, 147, .	2.0	16
46	Acceleromter-Based Measurement of Construction Equipment Operating Efficiency for Monitoring Environmental Performance. , 2013, , .		15
47	Identifying Workersâ€™ Safety Behaviorâ€“Related Personality by Sensing. Journal of Construction Engineering and Management - ASCE, 2020, 146, .	2.0	15
48	Detecting the Hazards of Lifting and Carrying in Construction through a Coupled 3D Sensing and IMUs Sensing System. , 2014, , .		14
49	A Wireless Tracking System Integrated with BIM for Indoor Construction Applications. , 2016, , .		13
50	Automated Activity Recognition of Construction Equipment Using a Data Fusion Approach. , 2019, , .		13
51	Environmental Distress and Physiological Signals: Examination of the Saliency Detection Method. Journal of Computing in Civil Engineering, 2020, 34, .	2.5	13
52	Noise Reference Signalâ€“Based Denoising Method for EDA Collected by Multimodal Biosensor Wearable in the Field. Journal of Computing in Civil Engineering, 2020, 34, .	2.5	12
53	Use of Connected Technologies to Assess Barriers and Stressors for Age and Disability-Friendly Communities. Frontiers in Public Health, 2021, 9, 578832.	1.3	12
54	A Digital Twin City Model for Age-Friendly Communities: Capturing Environmental Distress from Multimodal Sensory Data. , 2020, , .		12

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55	Hybrid kinematicâ€“visual sensing approach for activity recognition of construction equipment. Journal of Building Engineering, 2021, 44, 102709.	1.6	10
56	Assessing exposure to slip, trip, and fall hazards based on abnormal gait patterns predicted from confidence interval estimation. Automation in Construction, 2022, 139, 104253.	4.8	10
57	Saliency Detection Analysis of Pedestriansâ€™ Physiological Responses to Assess Adverse Built Environment Features. , 2019, , .		9
58	A load-disaggregation framework to sense personalized energy-use information in commercial buildings. Energy and Buildings, 2020, 207, 109633.	3.1	9
59	Development of Non-Intrusive Occupant Load Monitoring (NIOLM) in Commercial Buildings: Assessing Occupantsâ€™ Energy-Use Behavior at Entry and Departure Events. , 2015, , .		8
60	Assessing the Effects of Tool-Loading Formation on Construction Workersâ€™ Postural Stability. , 2018, , .		7
61	Capturing Environmental Distress of Pedestrians Using Multimodal Data: The Interplay of Biosignals and Image-Based Data. Journal of Computing in Civil Engineering, 2022, 36, .	2.5	7
62	Lessons learned from utilizing discrete-event simulation modeling for quantifying construction emissions in pre-planning phase. , 2010, , .		6
63	Sensing Workers Gait Abnormality for Safety Hazard Identification. , 2016, , .		6
64	Exploiting Multiple Receivers for CSI-Based Activity Classification Using A Hybrid CNN-LSTM Model. , 2019, , .		6
65	Effects of Physical Disorders in Neighborhoods on Pedestriansâ€™ Physiological Responses. , 2017, , .		5
66	Analyzing Spatial Patterns of Workersâ€™ Gait Cycles for Locating Latent Fall Hazards. , 2017, , .		5
67	Understanding Occupantsâ€™ Physical Distancing Behavior for Safer Facility Operation under COVID-19 in the Context of Educational Facilities. Journal of Management in Engineering - ASCE, 2022, 38, .	2.6	5
68	Productivity Forecasting of Newly Added Workers Based on Time-Series Analysis and Site Learning. Journal of Construction Engineering and Management - ASCE, 2015, 141, .	2.0	4
69	Tracking Divergence in Workersâ€™ Trajectory Patterns for Hazard Sensing in Construction. , 2018, , .		4
70	Evaluating Routine Variability of Daily Activities in Smart Homes with Image Complexity Measures. Journal of Computing in Civil Engineering, 2020, 34, 04020042.	2.5	4
71	Assessment of Daily Routine Uniformity in a Smart Home Environment Using Hierarchical Clustering. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3197-3208.	3.9	4
72	Capturing Regularity of ADL Routines Using Hierarchical Clustering Models. , 2019, , .		4

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73	Near-Miss Accident Detection for Ironworkers Using Inertial Measurement Unit Sensors. , 2014, , .		4
74	Using a Virtual Reality-based Experiment Environment to Examine Risk Habituation in Construction Safety. , 2020, , .		4
75	Real-time remote energy consumption location for power management application. Advances in Building Energy Research, 2019, , 1-21.	1.1	3
76	Can Pedestriansâ€™ Physiological Signals Be Indicative of Urban Built Environment Conditions?. , 2020, , .		3
77	Integrated evaluation of cost, schedule and emission performance on rock-filled concrete dam construction operation using discrete event simulation. , 2013, , .		2
78	MPSBL: Multiple Transmit Power Assisted Sequence-Based Localization in Wireless Sensor Networks. , 2018, , .		2
79	Monitoring Changes in Gait Adaptation to Identify Construction Workersâ€™ Risk Preparedness after Multiple Exposures to a Hazard. , 2018, , .		2
80	Deciphering Workersâ€™ Safety Attitudes by Sensing Gait Patterns. Lecture Notes in Computer Science, 2017, , 397-405.	1.0	2
81	Measuring Routine Variability of Daily Activities with Image Complexity Metrics. , 2019, , .		2
82	Capturing Occupant Routine Behaviors in Smart Home Environment Using Hierarchical Clustering Models. , 2020, , .		2
83	The Impacts of CSI Temporal Variations on CSI-based Occupancy Monitoring Systems. , 2020, , .		2
84	Agent-Based Simulation to Predict Occupants' Physical-Distancing Behaviors in Educational Buildings. , 2021, , .		2
85	Analysis of Delay Interval and Energy-Load Variation for Non-Intrusively Extracting Occupant Energy-Use Information in Commercial Buildings. , 2017, , .		1
86	Faculty Learning Community (FLC) for BIM Education in a Multidisciplinary School. , 2017, , .		1
87	A Hybrid CNN-LSTM Model for Detecting Excessive Load Carrying from Workersâ€™ Body Movements. , 2020, , .		1
88	Assessing ADL Routine Variability from High-dimensional Sensing Data using Hierarchical Clustering. , 2020, , .		1
89	Assessing Exposure to Slip, Trip, and Fall Hazards by Measuring Construction Worker Loss of Balance. , 2022, , .		1
90	Carbon Emissions Quantification and Verification Strategies for Large-Scale Construction Projects. , 2012, , .		0

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91	Assessing Occupants' Energy-load Variation in Commercial and Educational Buildings: Occupancy Detecting Approach Based on Existing Wireless Network Infrastructure. , 2014, , .		0
92	Investigating the Impact of Human Risk Taking Tendency on the Likelihood of Struck-By Accidents in Construction Using Agent-Based Simulation. , 2017, , .		0
93	Exploiting Multiple Receivers for CSI-Based Activity Classification Using A Hybrid CNN-LSTM Model. , 2019, , .		0
94	Future of Smart Construction and Infrastructure. Journal of Computing in Civil Engineering, 2022, 36, .	2.5	0