Frank Knoefel

List of Publications by Year
in descending order

114 papers	1,958 citations	394421 19 h-index	395702 33 g-index
115 all docs	115 docs citations	115 times ranked	1840 citing authors

#	Article	IF	Citations
1	State of the art in geriatric rehabilitation. Part I: Review of frailty and comprehensive geriatric assessment11No commercial party having a direct financial interest in the results of the research supporting this article has or will confer a benefit upon the authors or upon any organization with which the authors are associated.. Archives of Physical Medicine and Rehabilitation, 2003, 84, 890-897.	0.9	170
2	Medical Comorbidity and Rehabilitation Efficiency in Geriatric Inpatients. Journal of the American Geriatrics Society, 2001, 49, 1471-1477.	2.6	133
3	Integration of Smart Home Technologies in a Health Monitoring System for the Elderly. , 2007, , .		115
4	Privacy versus autonomy: A tradeoff model for smart home monitoring technologies. , 2011, 2011, 4749-52.		94
5	Determination of Sit-to-Stand Transfer Duration Using Bed and Floor Pressure Sequences. IEEE Transactions on Biomedical Engineering, 2009, 56, 2485-2492.	4.2	66
6	State of the art in geriatric rehabilitation. Part II: Clinical challenges11No commercial party having a direct financial interest in the results of the research supporting this article has or will confer a benefit upon the authors or upon any organization with which the authors are associated.. Archives of Physical Medicine and Rehabilitation, 2003, 84, 898-903.	0.9	64
7	Recommendations for the Use of Serious Games in Neurodegenerative Disorders: 2016 Delphi Panel. Frontiers in Psychology, 2017, 8, 1243.	2.1	64
8	Novel Coronavirus Cough Database: NoCoCoDa. IEEE Access, 2020, 8, 154087-154094.	4.2	56
9	Auditory Event-related Potentials in Mild Cognitive Impairment and Alzheimerâ€™s Disease. Current Alzheimer Research, 2018, 15, 702-715.	1.4	44
10	Lying and sitting posture recognition and transition detection using a pressure sensor array. , 2012, , .		41
11	Measurements of Sit-to-Stand Timing and Symmetry From Bed Pressure Sensors. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1732-1740.	4.7	40
12	Event-related potentials elicited during working memory are altered in mild cognitive impairment. International Journal of Psychophysiology, 2016, 109, 1-8.	1.0	36
13	Validation of Unobtrusive Pressure Sensor Array for Central Sleep Apnea Screening. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1857-1865.	4.7	32
14	Reliable Respiratory Rate Estimation from a Bed Pressure Array. , 2006, 2006, 6410-3.		31
15	Adaptive eulerian video magnification methods to extract heart rate from thermal video. , 2016, , .		31
16	Relative Thresholding With Under-Mattress Pressure Sensors to Detect Central Apnea. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 3281-3289.	4.7	29
17	In-Bed Mobility Monitoring Using Pressure Sensors. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 2110-2120.	4.7	28
18	Agile IoT for Critical Infrastructure Resilience: Cross-Modal Sensing As Part of a Situational Awareness Approach. IEEE Internet of Things Journal, 2018, 5, 4454-4465.	8.7	28

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19	Dual-Stiffness Flooring: Can It Reduce Fracture Rates Associated With Falls?. Journal of the American Medical Directors Association, 2013, 14, 303-305.	2.5	26
20	Driver identification using vehicle acceleration and deceleration events from naturalistic driving of older drivers. , 2017, , .		26
21	Measurement of Torso Movement With Delay Mapping Using an Unobtrusive Pressure-Sensor Array. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1751-1760.	4.7	25
22	P300 amplitude alterations during inhibitory control in persons with Mild Cognitive Impairment. Brain Research, 2016, 1646, 241-248.	2.2	24
23	Visual Event-Related Potentials in Mild Cognitive Impairment and Alzheimerâ€™s Disease: A Literature Review. Current Alzheimer Research, 2018, 16, 67-89.	1.4	24
24	Measuring variation in driving habits between drivers. , 2014, , .		23
25	Detecting Cognitive Ability Changes in Patients With Moderate Dementia Using a Modified â€œWhack-a-Moleâ€•Game. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 1521-1534.	4.7	21
26	Smart home technology solution for night-time wandering in persons with dementia. Journal of Rehabilitation and Assistive Technologies Engineering, 2020, 7, 205566832093859.	0.9	21
27	Machine Learning-Based Automatic Detection of Central Sleep Apnea Events From a Pressure Sensitive Mat. IEEE Access, 2020, 8, 173428-173439.	4.2	21
28	IR night vision video-based estimation of heart and respiration rates. , 2017, , .		20
29	Bed occupancy measurements using under mattress pressure sensors for long term monitoring of community-dwelling older adults. , 2013, , .		18
30	The detection of breathing behavior using Eulerian-enhanced thermal video. , 2015, 2015, 7474-7.		17
31	Preliminary results for measurement and classification of overnight wandering by dementia patient using multi-sensors. , 2018, , .		17
32	Measurement of driving routes and correlation to optimal navigation paths. , 2013, , .		16
33	Adaptive Eulerian Video Processing of Thermal Video: An Experimental Analysis. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 2516-2524.	4.7	16
34	Semi-Autonomous Vehicles as a Cognitive Assistive Device for Older Adults. Geriatrics (Switzerland), 2019, 4, 63.	1.7	16
35	Detection of bouncing during sit-to-stand transfers with sequential pressure images. , 2011, , .		15
36	Measurement of vehicle acceleration in studies of older drivers from GPS position and OBDII velocity sensors. , 2015, , .		15

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37	Measurement of Distinguishing Features of Stable Cognitive and Physical Health Older Drivers. IEEE Transactions on Instrumentation and Measurement, 2016, 65, 1990-2001.	4.7	15
38	EEG/ERP: Within Episodic Assessment Framework for Cognition. IEEE Transactions on Instrumentation and Measurement, 2017, 66, 2525-2534.	4.7	15
39	Naturalistic Driving: A Framework and Advances in Using Big Data. Geriatrics (Switzerland), 2018, 3, 16.	1.7	15
40	Context-aware smart home monitoring through pressure measurement sequences. , 2010, , .		14
41	Analysis of commode grab bar usage for the monitoring of older adults in the smart home environment. , 2009, 2009, 6155-8.		12
42	Assessing standing stability of older adults using pressure sensitive arrays. , 2012, , .		12
43	Cognitive change measurement through driving navigation ability sensing and analysis. , 2013, , .		12
44	Comparison of Silence Removal Methods for the Identification of Audio Cough Events. , 2019, 2019, 1263-1268.		12
45	Design of games for measurement of cognitive impairment. , 2014, , .		11
46	Big data analytics to identify deceleration characteristics of an older driver. , 2015, , .		11
47	Smart monitoring of fluid intake and bladder voiding using pressure sensitive mats. , 2016, 2016, 4921-4924.		11
48	Long term monitoring of a pressure ulcer risk patient using thermal images. , 2017, 2017, 1461-1464.		11
49	Preliminary results on the effect of sensor position on unobtrusive rollover detection for sleep monitoring in smart homes. , 2009, 2009, 6135-8.		10
50	Variation in acceleration driving patterns as a measure of older adult health status. , 2017, , .		10
51	Monitoring cognitive ability in patients with moderate dementia using a modified â€œwhack-a-moleâ€. , 2017, , .		10
52	Unobtrusive Screening of Central Sleep Apnea From Pressure Sensors Measurements: A Patient-Specific Longitudinal Study. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 3282-3296.	4.7	10
53	Contactless Remote Assessment of Heart Rate and Respiration Rate Using Video Magnification. IEEE Instrumentation and Measurement Magazine, 2022, 25, 20-27.	1.6	10
54	Highly survivable bed pressure mat remote patient monitoring system for mHealth. , 2012, 2012, 268-71.		9

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55	Differentiating assisted and unassisted bed exits using ultrasonic sensor. , 2012, , .		9
56	Automation of the Validation, Anonymization, and Augmentation of Big Data from a Multi-year Driving Study. , 2015, , .		9
57	Cognition assessment: A framework for episodic measurement. , 2016, , .		9
58	Comparison of motion-based analysis to thermal-based analysis of thermal video in the extraction of respiration patterns. , 2017, 2017, 3835-3839.		9
59	Developing a pressure sensitive mat using proximity sensors for vital sign monitoring. , 2018, , .		9
60	WiFi Channel State Information-Based Recognition of Sitting-Down and Standing-Up Activities. , 2019, , .		9
61	Trip-Based Measures of Naturalistic Driving: Considerations and Connections With Cognitive Status in Older Adult Drivers. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 2451-2459.	4.7	9
62	Impact of health differences and longitudinal changes on deceleration driving patterns in older adult drivers. Transportation Research Part F: Traffic Psychology and Behaviour, 2019, 60, 137-146.	3.7	9
63	Simulated central apnea detection using the pressure variance. , 2009, 2009, 3917-20.		8
64	Measurement of signal use and vehicle turns as indication of driver cognition. , 2014, 2014, 3747-50.		8
65	Measuring sit-to-stand timing variability over time using under mattress pressure sensor technology. , 2014, , .		8
66	Characterization of measurements from pressure sensitive mats using an anthropomorphic body model. , 2016, , .		8
67	Driver Unique Acceleration Behaviours and Stability over Two Years. , 2016, , .		8
68	Sensor modality shifting in IoT deployment: Measuring non-temperature data using temperature sensors. , 2017, , .		8
69	The Challenges of Connecting Smart Home Health Sensors to Cloud Analytics. , 2019, , .		8
70	Breathing sensor selection during movement. , 2011, 2011, 381-4.		7
71	Bed occupancy monitoring: Data processing and clinician user interface design. , 2012, 2012, 5810-4.		7
72	Bed-Based Health Monitoring Using Pressure Sensitive Technology: A Review. IEEE Instrumentation and Measurement Magazine, 2021, 24, 13-23.	1.6	7

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73	Preliminary Results for the Automated Assessment of Driving Simulation Results for Drivers with Cognitive Decline. , 2021, , .		7
74	Patient Choice: An Influencing Factor on Policy-Related Research to Decrease Bedrail Use as Physical Restraint. Worldviews on Evidence-Based Nursing, 2006, 3, 31-39.	2.9	6
75	Patient standing stability measurements using pressure sensitive floor sensors. , 2012, , .		6
76	Driving Destination Measures in Older Adult Drivers with Differing Health Statuses. , 2018, , .		6
77	Examining the Effect of Noise on Biosignal Estimates Extracted through Spatio-Temporal Video Processing. , 2019, 2019, 4504-4508.		6
78	Effect of windowing on central apnea detection. , 2010, , .		5
79	Amplitude-based central apnea screening. , 2011, , .		5
80	Measurements of change in thermal images due to applied pressure. , 2015, , .		5
81	Monitoring congestive heart failure using pressure-sensitive mats. , 2016, , .		5
82	The use of a thermal camera and Eulerian enhancement in the examination of pedal pulse and microvascular health. , 2016, 2016, 1385-1388.		5
83	Implementation of a Brain Training Pilot Study For People With Mild Cognitive Impairment. Canadian Geriatrics Journal, 2018, 21, 264-268.	1.2	5
84	Streaming Pressure Sensor Data for Cloud Processing. , 2019, , .		5
85	Cloud Processing of Bed Pressure Sensor Data to Detect Sleep Apnea Events. , 2020, , .		5
86	Analysis of cough sound measurements including COVID-19 positive cases: A machine learning characterization. , 2021, , .		5
87	Effects of Region of Interest Size on Heart Rate Assessment through Video Magnification. , 2021, , .		5
88	The Assessment of Cognitive and Physical Well-Being Through Ambient Sensor Measures of Movement Towards Longitudinal Monitoring of Activities of Daily Living. IEEE Instrumentation and Measurement Magazine, 2021, 24, 79-88.	1.6	5
89	Analyzing center of pressure progression during bed exits. , 2014, 2014, 1786-9.		4
90	Using Zigbee Sensors for Ambient Measurement of Human Gait â€" Analytical Considerations. , 2021, , .		4

#	ARTICLE	IF	CITATIONS
91	Measuring chest movement using an array of unobstusive pressure sensors. , 2010, , .		3
92	Measurement and comparison of thermal and in-bed pressure data towards the prevention of pressure ulcers. , 2016, , .		3
93	Changes in driving acceleration pattern variability related to cognitive and physical health. , 2018, , .		3
94	Video-Based Analysis of Heart Rate Applied to Falls. , 2018, , .		3
95	Supportive Smart Home Systems: Utilization Assessment for Internet Service Provider Networks. , 2021, , .		3
96	The Effect of Noise on Contactless Heart Rate Measurement using Video Magnification. , 2022, , .		3
97	Adaptive information content management and buffer caching design for robust real-time streaming over IP network. , 2012, , .		2
98	Preliminary Results from Longitudinal Balance Assessment for Older Adults with Cognitive Decline. , 2019, , .		2
99	Location Independence in Machine Learning Classification of Sitting-Down and Standing-Up Actions using Wi-Fi Sensors. , 2021, , .		2
100	Impact of face coverings on cough measurement characterization. , 2021, , .		2
101	Measuring Older Driver Behaviours with Prior and Post Exposure to Collision Locations. , 2018, , .		2
102	Implementation of smart supportive dementia technology in a hospital transitional care setting using human-centred design. Healthcare Management Forum, 0, , 084047042211035.	1.4	2
103	Automated assessment of mobility in bedridden patients. , 2013, 2013, 4271-4.		1
104	Robust Coherent Sensor Combining With Decision Directed Reversal Correction. IEEE Transactions on Instrumentation and Measurement, 2014, 63, 3119-3126.	4.7	1
105	Adaptive drift calibration of accelerometers with direct velocity measurements. , 2015, , .		1
106	Repetitively Driven Trips as a Measure of Older Adult Driver Cognitive Health â€" Three Case Studies. , 2020, , .		1
107	Probable Delirium and Associated Patient Characteristics in Long-Term Care and Complex Continuing Care: A Population-Based Observational Study. Journal of the American Medical Directors Association, 2022, 23, 66-72.e2.	2.5	1
108	Reliable Respiratory Rate Estimation from a Bed Pressure Array. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	1

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109	Frequency Response of a Novel IR Based Pressure Sensitive Mat for Well-being Assessment. , 2020, , .		1
110	Network Effects on Dual Machine Learning Models Predicting Smart Home Sensor Measurements. , 2022, , .		1
111	P3â€054: Evoked Response Potentials: Which Features Help Distinguish MCI from Healthy Controls?. Alzheimer's and Dementia, 2016, 12, P837.	0.8	0
112	Context-Awareness in Non-Contact, Multi-Modality, Bed-Based Monitoring of Vital Signs. , 2018, , .		0
113	Design of a System to Measure Spatial Sound Localization Abilities. , 2018, , .		0
114	Using Video Replay of Simulated Driving to Estimate Driving Safety and Cognitive Status. Safety, 2021, 7, 45.	1.7	0