Hangsik Shin

List of Publications by Year
in descending order

76 papers	1,630 citations	393982 19 h-index	301761 39 g-index
87 all docs	87 docs citations	87 times ranked	2058 citing authors

#	Article	IF	Citations
1	Adaptive threshold method for the peak detection of photoplethysmographic waveform. Computers in Biology and Medicine, 2009, 39, 1145-1152.	3.9	223
2	Effects of salinity on the characteristics of biomass and membrane fouling in membrane bioreactors. Bioresource Technology, 2013, 141, 50-56.	4.8	160
3	Noncontact Respiration Rate Measurement System Using an Ultrasonic Proximity Sensor. IEEE Sensors Journal, 2010, 10, 1732-1739.	2.4	139
4	Photoplethysmography sampling frequency: pilot assessment of how low can we go to analyze pulse rate variability with reliability?. Physiological Measurement, 2017, 38, 586-600.	1.2	91
5	Simplified Structural Textile Respiration Sensor Based on Capacitive Pressure Sensing Method. IEEE Sensors Journal, 2014, 14, 3245-3251.	2.4	88
6	Photoplethysmogram Analysis and Applications: An Integrative Review. Frontiers in Physiology, 2021, 12, 808451.	1.3	83
7	Feasibility study for the non-invasive blood pressure estimation based on ppg morphology: normotensive subject study. BioMedical Engineering OnLine, 2017, 16, 10.	1.3	80
8	Effect of Membrane Surface Properties During the Fast Evaluation of Cell Attachment. Separation Science and Technology, 2006, 41, 1475-1487.	1.3	67
9	Wearable multimode sensors with amplified piezoelectricity due to the multi local strain using 3D textile structure for detecting human body signals. Nano Energy, 2020, 74, 104932.	8.2	64
10	Ambient temperature effect on pulse rate variability as an alternative to heart rate variability in young adult. Journal of Clinical Monitoring and Computing, 2016, 30, 939-948.	0.7	44
11	Quantitative Analysis of the Effect of an Ectopic Beat on the Heart Rate Variability in the Resting Condition. Frontiers in Physiology, 2018, 9, 922.	1.3	42
12	Feasibility Study of Sitting Posture Monitoring Based on Piezoresistive Conductive Film-Based Flexible Force Sensor. IEEE Sensors Journal, 2016, 16, 15-16.	2.4	39
13	Simple and Robust Realtime QRS Detection Algorithm Based on Spatiotemporal Characteristic of the QRS Complex. PLoS ONE, 2016, 11, e0150144.	1.1	35
14	Unconstrained snoring detection using a smartphone during ordinary sleep. BioMedical Engineering OnLine, 2014, 13, 116.	1.3	34
15	Positive roles of biofilm during the operation of membrane bioreactor for water reuse. Desalination, 2007, 202, 129-134.	4.0	33
16	Postoperative Pain Assessment Indices Based on Photoplethysmography Waveform Analysis. Frontiers in Physiology, 2018, 9, 1199.	1.3	25
17	Relations between ac-dc components and optical path length in photoplethysmography. Journal of Biomedical Optics, 2011, 16, 077012.	1.4	24
18	Ideal Filtering Approach on DCT Domain for Biomedical Signals: Index Blocked DCT Filtering Method (IB-DCTFM). Journal of Medical Systems, 2010, 34, 741-753.	2.2	21

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19	Recurrence Plot and Machine Learning for Signal Quality Assessment of Photoplethysmogram in Mobile Environment. Sensors, 2021, 21, 2188.	2.1	21
20	Is Ultra-Short-Term Heart Rate Variability Valid in Non-static Conditions?. Frontiers in Physiology, 2021, 12, 596060.	1.3	21
21	Preliminary Clinical Application of Textile Insole Sensor for Hemiparetic Gait Pattern Analysis. Sensors, 2019, 19, 3950.	2.1	20
22	XGBoost Regression of the Most Significant Photoplethysmogram Features for Assessing Vascular Aging. IEEE Journal of Biomedical and Health Informatics, 2022, 26, 3354-3361.	3.9	19
23	Algorithm for Classifying Arrhythmia using Extreme Learning Machine and Principal Component Analysis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 3257-60.	0.5	17
24	Design of Multi-Wavelength Optical Sensor Module for Depth-Dependent Photoplethysmography. Sensors, 2019, 19, 5441.	2.1	17
25	Postoperative Pain Assessment Model Based on Pulse Contour Characteristics Analysis. IEEE Journal of Biomedical and Health Informatics, 2019, 23, 2317-2324.	3.9	17
26	Detection of Hemiplegic Walking Using a Wearable Inertia Sensing Device. Sensors, 2018, 18, 1736.	2.1	15
27	Robust Sleep Quality Quantification Method for a Personal Handheld Device. Telemedicine Journal and E-Health, 2014, 20, 522-530.	1.6	13
28	Wearable Strain Sensor Using Conductive Yarn Sewed on Clothing for Human Respiratory Monitoring. IEEE Sensors Journal, 2020, 20, 12628-12636.	2.4	11
29	A Localization Method for First and Second Heart Sounds Based on Energy Detection and Interval Regulation. Journal of Electrical Engineering and Technology, 2015, 10, 2126-2134.	1.2	11
30	The Optimal Attachment Position for a Fingertip Photoplethysmographic Sensor With Low DC. IEEE Sensors Journal, 2012, 12, 1253-1254.	2.4	10
31	The Relationship among Complex Fractionated Electrograms, Wavebreak, Phase Singularity, and Local Dominant Frequency in Fibrillation Wave-Dynamics: a Modeling Comparison Study. Journal of Korean Medical Science, 2014, 29, 370.	1.1	10
32	Internet-Based Unobtrusive Tele-Monitoring System for Sleep and Respiration. IEEE Access, 2020, 8, 76700-76707.	2.6	10
33	Design of the wearable device for hemiplegic gait detection using an accelerometer and a gyroscope. , 2017, 2017, 1409-1412.		9
34	Deep convolutional neural network-based signal quality assessment for photoplethysmogram. Computers in Biology and Medicine, 2022, 145, 105430.	3.9	9
35	Adaptive motion artifacts reduction algorithm for ECG signal in textile wearable sensor. IEICE Electronics Express, 2007, 4, 312-318.	0.3	8
36	Feasibility Study for Unconstrained Respiration Monitoring Based on Multi-Way Approach Using an Acceleration and Force Sensing Module. IEEE Sensors Journal, 2017, 17, 3482-3489.	2.4	8

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37	Development of a Multi-Array Pressure Sensor Module for Radial Artery Pulse Wave Measurement. Sensors, 2020, 20, 33.	2.1	8
38	The e-Health Landscape: Current Status and Future Prospects in Korea. Telemedicine Journal and E-Health, 2009, 15, 362-369.	1.6	7
39	Novel Analgesic Index for Postoperative Pain Assessment Based on a Photoplethysmographic Spectrogram and Convolutional Neural Network: Observational Study. Journal of Medical Internet Research, 2021, 23, e23920.	2.1	7
40	Force-Sensing-Based Unobtrusive System for Awakening and Respiration Rate Analysis During Sleep. IEEE Sensors Journal, 2019, 19, 1917-1924.	2.4	6
41	Performance of the nasal photoplethysmographic index as an analgesic index during surgery under general anaesthesia. Scientific Reports, 2020, 10, 7130.	1.6	6
42	Reply to 'Comment on Photoplethysmography sampling frequency: pilot assessment of how low can we go to analyze pulse rate variability with reliability?'. Physiological Measurement, 2017, 38, 2252-2256.	1.2	5
43	Calculation and Validation of Continuous Pulse Transit Time Based on Normalized Pulse Wave Velocity. IEEE Access, 2020, 8, 221632-221639.	2.6	5
44	Performance of the Surgical Pleth Index and Analgesia Nociception Index in Healthy Volunteers and Parturients. Frontiers in Physiology, 2021, 12, 554026.	1.3	5
45	Vascular Aging Estimation Based on Artificial Neural Network Using Photoplethysmogram Waveform Decomposition: Retrospective Cohort Study. JMIR Medical Informatics, 2022, 10, e33439.	1.3	5
46	Photoplethysmogram based vascular aging assessment using the deep convolutional neural network. Scientific Reports, 2022, 12, .	1.6	5
47	Implantable Bio system design for displacement measurement of living life. International Conference on Advanced Communication Technology, 2007, , .	0.0	4
48	Photoplethysmographic Pulse Quality Assessment Methods Based on Similarity Analysis. , 2018, , .		4
49	Three-Dimensional Atrial Wall Thickness Measurement Algorithm From a Segmented Atrial Wall Using a Partial Differential Equation. IEEE Access, 2022, 10, 32161-32170.	2.6	4
50	Pre-processing of Photoplethysmographic Waveform for Amplitude Regularization. Journal of Electrical Engineering and Technology, 2019, 14, 1741-1748.	1.2	3
51	Pulse Rate Variability as a Surrogate Method for Autonomic Nervous Systemassessment Comparing with Heart Rate Variability. Advanced Science Letters, 2012, 18, 92-98.	0.2	3
52	Preliminary study for the personal handheld device based snoring detection in ordinary sleep situation. , 2014, 2014, 3687-90.		2
53	Development of Vascular Aging Assessment Model Based on Photoplethysmogram Incident and Reflected Wave Characteristics. Transactions of the Korean Institute of Electrical Engineers, 2021, 70, 700-706.	0.1	2
54	Feasibility of a Waistband-Type Wireless Wearable Electrocardiogram Monitoring System Based on a Textile Electrode: Development and Usability Study. JMIR MHealth and UHealth, 2021, 9, e26469.	1.8	2

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55	Evaluation of the Ambient Temperature Effect for the Autonomic Nervous Activity through the Time Domain Analysis of the Heart Rate Variability. Transactions of the Korean Institute of Electrical Engineers, 2015, 64, 1246-1250.	0.1	2
56	Photoplethysmogram analysis and applications: An Integrative Review (Preprint). JMIR Biomedical Engineering, 0, , .	0.7	2
57	Deep Convolutional Neural Network-Based Hemiplegic Gait Detection Using an Inertial Sensor Located Freely in a Pocket. Sensors, 2022, 22, 1920.	2.1	2
58	Numerical study to evaluate the effect of a surface-based sensor on arterial tonometry. Computer Methods in Biomechanics and Biomedical Engineering, 2018, 21, 845-851.	0.9	1
59	Perspectives on e-health industry in Korea. , 0, , .		0
60	The measurement of compound neural action potential in sciatic nerve using microelectrode array. , 2006, Suppl, 6743-6.		0
61	Development of Arrhythmia Diagnosis Algorithm for Effective Control of Antitachycardia Pacing and High Energy Shock of ICD. , 2006, 2006, 4366-9.		0
62	Time-Frequency Analysis for Arrhythmia Discrimination Using Human Atrium Electrogram. , 2006, 2006, 1690-3.		0
63	The Measurement of Compound Neural Action Potential in Sciatic nerve Using Microelectrode Array. , 2006, 2006, 3002-4.		0
64	Recommendation for Measuring Digital Volume Pulse in Mobile Application: For Healthy Normal Subject. IEEE Access, 2021, 9, 69335-69345.	2.6	0
65	Transfer Function Estimates in Derived Respiration Analysis: Retrograde Study of the Respiratory Drive Mechanism. Advanced Science Letters, 2012, 6, 80-87.	0.2	0
66	Movement Characteristic Analysis for Unconstrained Sleep Efficiency Analysis Based on the Smartphone. Transactions of the Korean Institute of Electrical Engineers, 2014, 63, 940-944.	0.1	0
67	Unconstrained Continuous Infants Monitoring System Based on Mattress-Type Force Sensing Platform: A Pilot Study. Lecture Notes in Electrical Engineering, 2015, , 1159-1166.	0.3	0
68	Analysis for the Fluctuation of the Photoplethysmographic Waveform derived by Temperature Stress of Measuring Position. Transactions of the Korean Institute of Electrical Engineers, 2015, 64, 304-309.	0.1	0
69	Evaluation of the Ambient Temperature Effect for the Autonomic Nervous Activity of the Young Adult through the Frequency Analysis of the Heart Rate Variability. Transactions of the Korean Institute of Electrical Engineers, 2015, 64, 1240-1245.	0.1	0
70	An Effect of Sampling Rate to the Time and Frequency Domain Analysis of Pulse Rate Variability. Transactions of the Korean Institute of Electrical Engineers, 2016, 65, 1247-1251.	0.1	0
71	Reconstruction of the Undersampled Photoplethysmogram with Various Interpolation Methods. Transactions of the Korean Institute of Electrical Engineers, 2016, 65, 1418-1423.	0.1	0
72	Investigation of the Feasibility of Postoperative Pain Assessment Using Frequency Analysis of Photoplethysmogram Variability. IFMBE Proceedings, 2019, , 345-349.	0.2	0

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73	Development of System for measuring Nerve-Conduction Velocity. , 2007, , 861-863.		0
74	Time-Frequency Analysis for Arrhythmia Discrimination Using Human Atrium Electrogram. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
75	The Measurement of Compound Neural Action Potential in Sciatic nerve Using Microelectrode Array. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
76	Development of Arrhythmia Diagnosis Algorithm for Effective Control of Antitachycardia Pacing and High Energy Shock of ICD. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0