List of Publications by Year
in descending order

135 papers	4,743 citations	126858 33 h-index	128225 60 g-index
135 all docs	135 docs citations	135 times ranked	3402 citing authors

#	Article	IF	Citations
1	An open access database for the evaluation of heart sound algorithms. Physiological Measurement, 2016, 37, 2181-2213.	1.2	473
2	AF Classification from a Short Single Lead ECG Recording: the Physionet Computing in Cardiology Challenge 2017. , 2017, 44, .		370
3	An Open Access Database for Evaluating the Algorithms of Electrocardiogram Rhythm and Morphology Abnormality Detection. Journal of Medical Imaging and Health Informatics, 2018, 8, 1368-1373.	0.2	316
4	An Attention-Based Deep Learning Approach for Sleep Stage Classification With Single-Channel EEG. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 809-818.	2.7	225
5	Classification of 12-lead ECGs: the PhysioNet/Computing in Cardiology Challenge 2020. Physiological Measurement, 2020, 41, 124003.	1.2	199
6	Assessing the complexity of short-term heartbeat interval series by distribution entropy. Medical and Biological Engineering and Computing, 2015, 53, 77-87.	1.6	192
7	An open source benchmarked toolbox for cardiovascular waveform and interval analysis. Physiological Measurement, 2018, 39, 105004.	1.2	173
8	Signal Quality Assessment and Lightweight QRS Detection for Wearable ECG SmartVest System. IEEE Internet of Things Journal, 2019, 6, 1363-1374.	5.5	145
9	Analysis of heart rate variability using fuzzy measure entropy. Computers in Biology and Medicine, 2013, 43, 100-108.	3.9	129
10	Improving K-means clustering with enhanced Firefly Algorithms. Applied Soft Computing Journal, 2019, 84, 105763.	4.1	106
11	Comparison of different threshold values r for approximate entropy: application to investigate the heart rate variability between heart failure and healthy control groups. Physiological Measurement, 2011, 32, 167-180.	1.2	99
12	Classification of Normal/Abnormal Heart Sound Recordings: the PhysioNet/Computing in Cardiology Challenge 2016. , 0, , .		82
13	Performance Analysis of Ten Common QRS Detectors on Different ECG Application Cases. Journal of Healthcare Engineering, 2018, 2018, 1-8.	1.1	73
14	Heart rate variability monitoring for emotion and disorders of emotion. Physiological Measurement, 2019, 40, 064004.	1.2	72
15	Recent advances in heart sound analysis. Physiological Measurement, 2017, 38, E10-E25.	1.2	71
16	Combining sparse coding and time-domain features for heart sound classification. Physiological Measurement, 2017, 38, 1701-1713.	1.2	70
17	A lightweight QRS detector for single lead ECG signals using a max-min difference algorithm. Computer Methods and Programs in Biomedicine, 2017, 144, 61-75.	2.6	69
18	Determination of Sample Entropy and Fuzzy Measure Entropy Parameters for Distinguishing Congestive Heart Failure from Normal Sinus Rhythm Subjects. Entropy, 2015, 17, 6270-6288.	1.1	68

#	ARTICLE	IF	CITATIONS
19	Combining Low-dimensional Wavelet Features and Support Vector Machine for Arrhythmia Beat Classification. Scientific Reports, 2017, 7, 6067.	1.6	67
20	An Adaptive and Time-Efficient ECG R-Peak Detection Algorithm. Journal of Healthcare Engineering, 2017, 2017, 1-14.	1.1	65
21	Deep learning in the cross-time frequency domain for sleep staging from a single-lead electrocardiogram. Physiological Measurement, 2018, 39, 124005.	1.2	64
22	Modeling carotid and radial artery pulse pressure waveforms by curve fitting with Gaussian functions. Biomedical Signal Processing and Control, 2013, 8, 449-454.	3.5	61
23	A scattering and repulsive swarm intelligence algorithm for solving global optimization problems. Knowledge-Based Systems, 2018, 156, 12-42.	4.0	53
24	Differences of Heart Rate Variability Between Happiness and Sadness Emotion States: A Pilot Study. Journal of Medical and Biological Engineering, 2017, 37, 527-539.	1.0	51
25	A low-complexity data-adaptive approach for premature ventricular contraction recognition. Signal, Image and Video Processing, 2014, 8, 111-120.	1.7	50
26	Atrial Fibrillation Detection Using a Feedforward Neural Network. Journal of Medical and Biological Engineering, 2022, 42, 63-73.	1.0	47
27	Performance of an open-source heart sound segmentation algorithm on eight independent databases. Physiological Measurement, 2017, 38, 1730-1745.	1.2	46
28	Atrial Fibrillation Beat Identification Using the Combination of Modified Frequency Slice Wavelet Transform and Convolutional Neural Networks. Journal of Healthcare Engineering, 2018, 2018, 1-8.	1.1	46
29	A multi-step method with signal quality assessment and fine-tuning procedure to locate maternal and fetal QRS complexes from abdominal ECG recordings. Physiological Measurement, 2014, 35, 1665-1683.	1.2	45
30	Title is missing!. Journal of Medical and Biological Engineering, 2012, 32, 245.	1.0	38
31	Multiscale Entropy Analysis of the Differential RR Interval Time Series Signal and Its Application in Detecting Congestive Heart Failure. Entropy, 2017, 19, 251.	1.1	37
32	Combining Convolutional Neural Network and Distance Distribution Matrix for Identification of Congestive Heart Failure. IEEE Access, 2018, 6, 39734-39744.	2.6	37
33	A comparison of entropy approaches for AF discrimination. Physiological Measurement, 2018, 39, 074002.	1.2	37
34	Comparison of time-domain, frequency-domain and non-linear analysis for distinguishing congestive heart failure patients from normal sinus rhythm subjects. Biomedical Signal Processing and Control, 2018, 42, 30-36.	3.5	35
35	PCG Classification Using Multidomain Features and SVM Classifier. BioMed Research International, 2018, 2018, 1-14.	0.9	34
36	Comparing the Performance of Random Forest, SVM and Their Variants for ECG Quality Assessment Combined with Nonlinear Features. Journal of Medical and Biological Engineering, 2019, 39, 381-392.	1.0	33

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37	Over-fitting suppression training strategies for deep learning-based atrial fibrillation detection. Medical and Biological Engineering and Computing, 2021, 59, 165-173.	1.6	32
38	An Attention Based CNN-LSTM Approach for Sleep-Wake Detection With Heterogeneous Sensors. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3270-3277.	3.9	31
39	A New Entropy-Based Atrial Fibrillation Detection Method for Scanning Wearable ECG Recordings. Entropy, 2018, 20, 904.	1.1	30
40	Testing pattern synchronization in coupled systems through different entropy-based measures. Medical and Biological Engineering and Computing, 2013, 51, 581-591.	1.6	29
41	Using Lempel–Ziv Complexity to Assess ECG Signal Quality. Journal of Medical and Biological Engineering, 2016, 36, 625-634.	1.0	28
42	Differences in photoplethysmography morphological features and feature time series between two opposite emotions: Happiness and sadness. Artery Research, 2017, 18, 7.	0.3	28
43	Rule-Based Method for Morphological Classification of ST Segment in ECG Signals. Journal of Medical and Biological Engineering, 2015, 35, 816-823.	1.0	27
44	Integration of Results From Convolutional Neural Network in a Support Vector Machine for the Detection of Atrial Fibrillation. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	2.4	25
45	Detection of Coupling in Short Physiological Series by a Joint Distribution Entropy Method. IEEE Transactions on Biomedical Engineering, 2016, 63, 2231-2242.	2.5	24
46	Comparison between heart rate variability and pulse rate variability during different sleep stages for sleep apnea patients. Technology and Health Care, 2017, 25, 435-445.	0.5	24
47	Continuous assessment of schizophrenia using heart rate and accelerometer data. Physiological Measurement, 2017, 38, 1456-1471.	1.2	24
48	Cardiorespiratory Coupling Analysis Based on Entropy and Cross-Entropy in Distinguishing Different Depression Stages. Frontiers in Physiology, 2019, 10, 359.	1.3	24
49	Multiple Time Scales Analysis for Identifying Congestive Heart Failure Based on Heart Rate Variability. IEEE Access, 2019, 7, 17862-17871.	2.6	24
50	Application of Permutation Entropy and Permutation Min-Entropy in Multiple Emotional States Analysis of RRI Time Series. Entropy, 2018, 20, 148.	1.1	22
51	Ventricular ectopic beat detection using a wavelet transform and a convolutional neural network. Physiological Measurement, 2019, 40, 055002.	1.2	22
52	Automatic detection of atrial fibrillation using R-R interval signal. , 2011, , .		21
53	A novel encoding Lempel–Ziv complexity algorithm for quantifying the irregularity of physiological time series. Computer Methods and Programs in Biomedicine, 2016, 133, 7-15.	2.6	20
54	Dynamic ECG Signal Quality Evaluation Based on the Generalized bSQI Index. IEEE Access, 2018, 6, 41892-41902.	2.6	19

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55	Extracting fetal heart beats from maternal abdominal recordings: selection of the optimal principal components. Physiological Measurement, 2014, 35, 1649-1664.	1.2	18
56	Measuring synchronization in coupled simulation and coupled cardiovascular time series: A comparison of different cross entropy measures. Biomedical Signal Processing and Control, 2015, 21, 49-57.	3.5	17
57	Atrial fibrillation detection on compressed sensed ECG. Physiological Measurement, 2017, 38, 1405-1425.	1.2	17
58	Relationship between carotid artery sclerosis and blood pressure variability in essential hypertension patients. Computers in Biology and Medicine, 2018, 92, 73-77.	3.9	15
59	Temporal-Framing Adaptive Network for Heart Sound Segmentation Without Prior Knowledge of State Duration. IEEE Transactions on Biomedical Engineering, 2021, 68, 650-663.	2.5	15
60	Gaussian fitting for carotid and radial artery pressure waveforms: comparison between normal subjects and heart failure patients. Bio-Medical Materials and Engineering, 2014, 24, 271-277.	0.4	14
61	Efficient sleep classification based on entropy features and a support vector machine classifier. Physiological Measurement, 2018, 39, 115005.	1.2	14
62	Classification of congestive heart failure with different New York Heart Association functional classes based on heart rate variability indices and machine learning. Expert Systems, 2019, 36, e12396.	2.9	14
63	Multivariable Fuzzy Measure Entropy Analysis for Heart Rate Variability and Heart Sound Amplitude Variability. Entropy, 2016, 18, 430.	1.1	13
64	Design and evaluation of an autonomic nerve monitoring system based on skin sympathetic nerve activity. Biomedical Signal Processing and Control, 2022, 76, 103681.	3.5	13
65	Athletic Differences in the Characteristics of the Photoplethysmographic Pulse Shape: Effect of Maximal Oxygen Uptake and Maximal Muscular Voluntary Contraction. BioMed Research International, 2015, 2015, 1-8.	0.9	12
66	Convolutional squeeze-and-excitation network for ECG arrhythmia detection. Artificial Intelligence in Medicine, 2021, 121, 102181.	3.8	12
67	Elastic properties of peripheral arteries in heart failure patients in comparison with normal subjects. Journal of Physiological Sciences, 2013, 63, 195-201.	0.9	11
68	Wearable Fetal ECG Monitoring System from Abdominal Electrocardiography Recording. Biosensors, 2022, 12, 475.	2.3	11
69	Life-threatening false alarm rejection in ICU: using the rule-based and multi-channel information fusion method. Physiological Measurement, 2016, 37, 1298-1312.	1.2	10
70	Short-term QT interval variability in patients with coronary artery disease and congestive heart failure: a comparison with healthy control subjects. Medical and Biological Engineering and Computing, 2019, 57, 389-400.	1.6	10
71	An Open-Access Database for the Evaluation of Cardio-Mechanical Signals From Patients With Valvular Heart Diseases. Frontiers in Physiology, 2021, 12, 750221.	1.3	10
72	A Multistep Paroxysmal Atrial Fibrillation Scanning Strategy in Long-Term ECGs. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-10.	2.4	10

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73	Modelling Arterial Pressure Waveforms Using Gaussian Functions and Two-Stage Particle Swarm Optimizer. BioMed Research International, 2014, 2014, 1-10.	0.9	9
74	Modeling radial artery pressure waveforms using curve fitting: Comparison of four types of fitting functions. Artery Research, 2018, 23, 56.	0.3	9
75	An Improved Sliding Window Area Method for T Wave Detection. Computational and Mathematical Methods in Medicine, 2019, 2019, 1-11.	0.7	9
76	Frontal Alpha Complexity of Different Severity Depression Patients. Journal of Healthcare Engineering, 2020, 2020, 1-8.	1.1	9
77	Rule-based rough-refined two-step-procedure for real-time premature beat detection in single-lead ECG. Physiological Measurement, 2020, 41, 054004.	1.2	9
78	Arteries Stiffen With Age, but Can Retain an Ability to Become More Elastic With Applied External Cuff Pressure. Medicine (United States), 2015, 94, e1831.	0.4	8
79	Design of a smart ECG garment based on conductive textile electrode and flexible printed circuit board. Technology and Health Care, 2017, 25, 815-821.	0.5	8
80	Benchmarking heart rate variability toolboxes. Journal of Electrocardiology, 2017, 50, 744-747.	0.4	8
81	IFFLC: An Integrated Framework of Feature Learning and Classification for Multiple Diagnosis Codes Assignment. IEEE Access, 2019, 7, 36810-36818.	2.6	8
82	A New Physically Meaningful Threshold of Sample Entropy for Detecting Cardiovascular Diseases. Entropy, 2019, 21, 830.	1.1	8
83	An Open-Access Arrhythmia Database of Wearable Electrocardiogram. Journal of Medical and Biological Engineering, 2020, 40, 564-574.	1.0	8
84	Suppressing the Influence of Ectopic Beats by Applying a Physical Threshold-Based Sample Entropy. Entropy, 2020, 22, 411.	1.1	8
85	Non-Contact Electrocardiograms Acquisition Method Based on Capacitive Coupling. IEEE Instrumentation and Measurement Magazine, 2022, 25, 53-61.	1.2	8
86	An Artifact-Resistant Feature SKNAER for Quantifying the Burst of Skin Sympathetic Nerve Activity Signal. Biosensors, 2022, 12, 355.	2.3	8
87	Increased pulse wave transit time after percutaneous coronary intervention procedure in CAD patients. Scientific Reports, 2018, 8, 115.	1.6	7
88	Frontal Alpha EEG Asymmetry Variation of Depression Patients Assessed by Entropy Measures and Lempleâ€"Ziv Complexity. Journal of Medical and Biological Engineering, 2021, 41, 146-154.	1.0	7
89	Entropy Analysis of Heart Rate Variability in Different Sleep Stages. Entropy, 2022, 24, 379.	1.1	7
90	Tensor approximate entropy: An entropy measure for sleep scoring. Knowledge-Based Systems, 2022, 245, 108503.	4.0	7

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91	Effects of Blood Pressure and Sex on the Change of Wave Reflection: Evidence from Gaussian Fitting Method for Radial Artery Pressure Waveform. PLoS ONE, 2014, 9, e112895.	1.1	6
92	Comparison of repeatability of blood pressure measurements between oscillometric and auscultatory methods. , 2015, , .		6
93	Measuring Electromechanical Coupling in Patients with Coronary Artery Disease and Healthy Subjects. Entropy, 2016, 18, 153.	1.1	6
94	Continuous-Valued Annotations Aggregation for Heart Rate Detection. IEEE Access, 2019, 7, 37664-37671.	2.6	6
95	A Low-Noise-Level Heart Sound System Based on Novel Thorax-Integration Head Design and Wavelet Denoising Algorithm. Micromachines, 2019, 10, 885.	1.4	6
96	Decreased sample entropy during sleep-to-wake transition in sleep apnea patients. Physiological Measurement, 2021, 42, 044001.	1.2	6
97	Influence of Ectopic Beats on Heart Rate Variability Analysis. Entropy, 2021, 23, 648.	1.1	6
98	An Overview of Signal Quality Indices on Dynamic ECG Signal Quality Assessment. , 2020, , 33-54.		6
99	Dynamics of Cardiac Autonomic Responses During Hemodialysis Measured by Heart Rate Variability and Skin Sympathetic Nerve Activity: The Impact of Interdialytic Weight Gain. Frontiers in Physiology, 2022, 13, .	1.3	6
100	Decreased peripheral arterial volume distensibility in patients with branch retinal vein occlusion in comparison with normal subjects. Scientific Reports, 2014, 4, 6685.	1.6	5
101	Applications of Complexity Analysis in Clinical Heart Failure. , 2017, , 301-325.		5
102	An atrial fibrillation detection system based on machine learning algorithm with mix-domain features and hardware acceleration. , 2021, 2021, 1423-1426.		5
103	Improving Accuracy of Heart Failure Detection Using Data Refinement. Entropy, 2020, 22, 520.	1.1	4
104	Quantification of vascular function changes under different emotion states: A pilot study. Technology and Health Care, 2017, 25, 447-456.	0.5	4
105	A Portable ECG Patch Monitor Based on Flexible Non-hydrogel Electrode. Journal of Medical and Biological Engineering, 2022, 42, 364-373.	1.0	4
106	Wearable Electrocardiogram Quality Assessment Using Wavelet Scattering and LSTM. Frontiers in Physiology, 0, 13, .	1.3	4
107	Change of bilateral difference in radial artery pulse morphology with one-side arm movement. Artery Research, 2017, 19, 1.	0.3	3
108	A wearable real-time telemonitoring electrocardiogram device compared with traditional Holter monitoring. Journal of Biomedical Research, 2021, 35, 238.	0.7	3

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109	Representative Databases for Feature Engineering and Computational Intelligence in ECG Processing. , 2020, , 13-29.		3
110	Atrial Fibrillation Detection in Dynamic Signals. , 2020, , 177-195.		3
111	Robust PVC Identification by Fusing Expert System and Deep Learning. Biosensors, 2022, 12, 185.	2.3	3
112	Comparison of heart rate variability between resting state and external-cuff-inflation-and-deflation state: a pilot study. Physiological Measurement, 2015, 36, 2135-2146.	1.2	2
113	Effect of a Percutaneous Coronary Intervention Procedure on Heart Rate Variability and Pulse Transit Time Variability: A Comparison Study Based on Fuzzy Measure Entropy. Entropy, 2016, 18, 246.	1.1	2
114	Changes of Femoral Photolethysmographic Waveform Characteristics in Anesthetized Dogs with Increased Blood Pressure Induced by Epinephrine. Frontiers in Physiology, 2016, 7, 404.	1.3	2
115	A signal quality assessment method for mobile ECG using multiple features and fuzzy support vector machine. , 2016, , .		2
116	Editorial on Remote Health Monitoring: from chronic diseases to pandemics. Physiological Measurement, 2020, 41, 100401.	1.2	2
117	ANALYSIS OF PHOTOPLETHYSMOGRAPHIC MORPHOLOGY IN SLEEP APNEA SYNDROME PATIENTS USING CURVE FITTING AND SUPPORT VECTOR MACHINE. Journal of Mechanics in Medicine and Biology, 2021, 21, 2140019.	0.3	2
118	Determination of Parameters for an Entropy-Based Atrial Fibrillation Detector. Entropy, 2021, 23, 1199.	1.1	2
119	A novel single-lead handheld atrial fibrillation detection system. Physiological Measurement, 2021, 42, 114001.	1.2	2
120	Multi-label Feature Selection for Long-term Electrocardiogram Signals. , 2020, , .		2
121	An Octave Convolution Neural Network-based QRS Detector. , 2020, , .		2
122	Premature Beats Rejection Strategy on Paroxysmal Atrial Fibrillation Detection. Frontiers in Physiology, 2022, 13, 890139.	1.3	2
123	Analysis of Heart Rate Variability between Rest and Exercise States in Hypoxic Environment Using Fuzzy Measure Entropy. , 2016, , .		1
124	Changes in the bilateral pulse transit time difference with a moving arm. Technology and Health Care, 2018, 26, 113-119.	0.5	1
125	Relationships between blood pressure variability and silent cerebral infarction in patients with primary hypertension. Artery Research, 2018, 24, 40.	0.3	1
126	A Convolutional Neural Network for Identifying Premature Ventricular Contraction Beat and Right Bundle Branch Block Beat. , 2018, , .		1

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127	Effects of Inferior Myocardial Infarction Sizes and Sites on Simulated Electrocardiograms Based on a Torso-Heart Model. IEEE Access, 2019, 7, 35470-35479.	2.6	1
128	Active Stacking for Heart Rate Estimation. , 2020, , .		1
129	A Bayesian Fusion Model for Heart Rate Annotations. , 2020, , .		1
130	Effect of Cotton Fabric Moisture Regain and Thickness on Signal Quality of Noncontact Capacitive Coupling ECG. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-12.	2.4	1
131	Performance evaluation for the sliding area-based T wave detection method on the QT database. , 2017, , .		0
132	Coupling Analysis for Systolic, Diastolic and RR Interval Time Series Using Multivariable Fuzzy Measure Entropy. , 2017, , .		0
133	Effect of Myocardial Infarction Size on the Simulated ECG Morphology Based on a 3D Torso-Heart Model. IFMBE Proceedings, 2019, , 357-360.	0.2	0
134	A Portable NeuECG Monitoring System for Cardiac Sympathetic Nerve Activity Assessment. , 2020, , .		0
135	Influence of Finger Movement on the Stability of the Oscillometric Pulse Waveform for Blood Pressure Measurement. , 2021, , .		0