Unai Irusta

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2165264/publications.pdf

Version: 2024-02-01

103 papers	1,448 citations	361296 20 h-index	395590 33 g-index
105 all docs	105 docs citations	105 times ranked	806 citing authors

#	ARTICLE	IF	CITATIONS
1	Few-Shot Learning approach for plant disease classification using images taken in the field. Computers and Electronics in Agriculture, 2020, 175, 105542.	3.7	175
2	A Least Mean-Square Filter for the Estimation of the Cardiopulmonary Resuscitation Artifact Based on the Frequency of the Compressions. IEEE Transactions on Biomedical Engineering, 2009, 56, 1052-1062.	2.5	72
3	ECG-Based Classification of Resuscitation Cardiac Rhythms for Retrospective Data Analysis. IEEE Transactions on Biomedical Engineering, 2017, 64, 2411-2418.	2.5	63
4	Machine Learning Techniques for the Detection of Shockable Rhythms in Automated External Defibrillators. PLoS ONE, 2016, 11, e0159654.	1.1	53
5	Mixed convolutional and long short-term memory network for the detection of lethal ventricular arrhythmia. PLoS ONE, 2019, 14, e0216756.	1.1	50
6	Deep Neural Networks for ECG-Based Pulse Detection during Out-of-Hospital Cardiac Arrest. Entropy, 2019, 21, 305.	1.1	50
7	Rhythm Analysis during Cardiopulmonary Resuscitation: Past, Present, and Future. BioMed Research International, 2014, 2014, 1-13.	0.9	47
8	Suppression of the cardiopulmonary resuscitation artefacts using the instantaneous chest compression rate extracted from the thoracic impedance. Resuscitation, 2012, 83, 692-698.	1.3	46
9	Detection of ventricular fibrillation in the presence of cardiopulmonary resuscitation artefacts. Resuscitation, 2007, 72, 115-123.	1.3	43
10	A method to remove CPR artefacts from human ECG using only the recorded ECG. Resuscitation, 2008, 76, 271-278.	1.3	43
11	A high-temporal resolution algorithm to discriminate shockable from nonshockable rhythms in adults and children. Resuscitation, 2012, 83, 1090-1097.	1.3	42
12	Automatic detection of chest compressions for the assessment of CPR-quality parameters. Resuscitation, 2014, 85, 957-963.	1.3	38
13	Circulation detection using the electrocardiogram and the thoracic impedance acquired by defibrillation pads. Resuscitation, 2016, 99, 56-62.	1.3	35
14	A Reliable Method for Rhythm Analysis during Cardiopulmonary Resuscitation. BioMed Research International, 2014, 2014, 1-11.	0.9	34
15	Application of Entropy-Based Features to Predict Defibrillation Outcome in Cardiac Arrest. Entropy, 2016, 18, 313.	1.1	32
16	Feasibility of the capnogram to monitor ventilation rate during cardiopulmonary resuscitation. Resuscitation, 2017, 110, 162-168.	1.3	29
17	Cardiopulmonary resuscitation artefact suppression using a Kalman filter and the frequency of chest compressions as the reference signal. Resuscitation, 2010, 81, 1087-1094.	1.3	28
18	ECG-based pulse detection during cardiac arrest using random forest classifier. Medical and Biological Engineering and Computing, 2019, 57, 453-462.	1.6	28

#	ARTICLE	IF	CITATIONS
19	Feasibility of automated rhythm assessment in chest compression pauses during cardiopulmonary resuscitation. Resuscitation, 2013, 84, 1223-1228.	1.3	26
20	Rhythm Analysis during Cardiopulmonary Resuscitation Using Convolutional Neural Networks. Entropy, 2020, 22, 595.	1.1	24
21	A novel technique to assess the quality of ventilation during pre-hospital cardiopulmonary resuscitation. Resuscitation, 2018, 132, 41-46.	1.3	22
22	Automatic Cardiac Rhythm Classification With Concurrent Manual Chest Compressions. IEEE Access, 2019, 7, 115147-115159.	2.6	22
23	ECG spectral and morphological parameters reviewed and updated to detect adult and paediatric life-threatening arrhythmia. Physiological Measurement, 2010, 31, 749-761.	1.2	21
24	A Machine Learning Shock Decision Algorithm for Use During Piston-Driven Chest Compressions. IEEE Transactions on Biomedical Engineering, 2019, 66, 1752-1760.	2.5	20
25	A Multistage Algorithm for ECG Rhythm Analysis During Piston-Driven Mechanical Chest Compressions. IEEE Transactions on Biomedical Engineering, 2019, 66, 263-272.	2.5	17
26	Capnography: A support tool for the detection of return of spontaneous circulation in out-of-hospital cardiac arrest. Resuscitation, 2019, 142, 153-161.	1.3	17
27	An algorithm to discriminate supraventricular from ventricular tachycardia in automated external defibrillators valid for adult and paediatric patients. Resuscitation, 2009, 80, 1229-1233.	1.3	16
28	Fully automatic rhythm analysis during chest compression pauses. Resuscitation, 2015, 89, 25-30.	1.3	16
29	Fuzzy and Sample Entropies as Predictors of Patient Survival Using Short Ventricular Fibrillation Recordings during out of Hospital Cardiac Arrest. Entropy, 2018, 20, 591.	1.1	16
30	A New Method for Feedback on the Quality of Chest Compressions during Cardiopulmonary Resuscitation. BioMed Research International, 2014, 2014, 1-7.	0.9	14
31	Filtering mechanical chest compression artefacts from out-of-hospital cardiac arrest data. Resuscitation, 2016, 98, 41-47.	1.3	14
32	Multimodal Algorithms for the Classification of Circulation States During Out-of-Hospital Cardiac Arrest. IEEE Transactions on Biomedical Engineering, 2021, 68, 1913-1922.	2.5	13
33	Automatic cardiac rhythm interpretation during resuscitation. Resuscitation, 2016, 102, 44-50.	1.3	12
34	Value of capnography to predict defibrillation success in out-of-hospital cardiac arrest. Resuscitation, 2019, 138, 74-81.	1.3	12
35	Automatic Detection of Ventilations During Mechanical Cardiopulmonary Resuscitation. IEEE Journal of Biomedical and Health Informatics, 2020, 24, 2580-2588.	3.9	12
36	Towards the Prediction of Rearrest during Out-of-Hospital Cardiac Arrest. Entropy, 2020, 22, 758.	1.1	11

#	Article	IF	Citations
37	A Precise Analysis of the IEC Flickermeter When Subject to Rectangular Voltage Fluctuations. IEEE Transactions on Instrumentation and Measurement, 2009, 58, 3839-3846.	2.4	10
38	Transthoracic Impedance Measured with Defibrillator Padsâ€"New Interpretations of Signal Change Induced by Ventilations. Journal of Clinical Medicine, 2019, 8, 724.	1.0	10
39	End-tidal carbon dioxide (ETCO2) and ventricular fibrillation amplitude spectral area (AMSA) for shock outcome prediction in out-of-hospital cardiac arrest. Are they two sides of the same coin?. Resuscitation, 2021, 160, 142-149.	1.3	10
40	Singular Frequencies in Rectangular Fluctuations in the IEC Flickermeter. IEEE Transactions on Power Delivery, 2007, 22, 1255-1256.	2.9	9
41	Rhythm characteristics and patterns of change during cardiopulmonary resuscitation for in-hospital paediatric cardiac arrest. Resuscitation, 2019, 135, 45-50.	1.3	9
42	Analysis of Few-Shot Techniques for Fungal Plant Disease Classification and Evaluation of Clustering Capabilities Over Real Datasets. Frontiers in Plant Science, 2022, 13, 813237.	1.7	9
43	Design and characterization of a plastic optical fiber active coupler. IEEE Photonics Technology Letters, 1998, 10, 1578-1580.	1.3	8
44	A New Alternative for the Input-Voltage Adaptor of the IEC Flickermeter. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 923-930.	2.4	8
45	Direct evaluation of the effect of filtering the chest compression artifacts on the uninterrupted cardiopulmonary resuscitation time. American Journal of Emergency Medicine, 2013, 31, 910-915.	0.7	8
46	An automatic system for the comprehensive retrospective analysis of cardiac rhythms in resuscitation episodes. Resuscitation, 2018, 122, 6-12.	1.3	8
47	Shock Decision Algorithms for Automated External Defibrillators Based on Convolutional Networks. IEEE Access, 2020, 8, 154746-154758.	2.6	8
48	WHY DEEP LEARNING PERFORMS BETTER THAN CLASSICAL MACHINE LEARNING?. Dyna (Spain), 2020, 95, 119-122.	0.1	8
49	ECG-based Random Forest Classifier for Cardiac Arrest Rhythms. , 2019, 2019, 1504-1508.		7
50	A Machine Learning Framework for Pulse Detection During Out-of-Hospital Cardiac Arrest. IEEE Access, 2020, 8, 161031-161041.	2.6	7
51	Restoration of the electrocardiogram during mechanical cardiopulmonary resuscitation. Physiological Measurement, 2020, 41, 105006.	1.2	7
52	Methodology and framework for the analysis of cardiopulmonary resuscitation quality in large and heterogeneous cardiac arrest datasets. Resuscitation, 2021, 168, 44-51.	1.3	7
53	Deep learning approach for a shock advise algorithm using short electrocardiogram analysis intervals. Resuscitation, 2019, 142, e85.	1.3	6
54	Factors affecting the course of resuscitation from cardiac arrest with pulseless electrical activity in children and adolescents. Resuscitation, 2020, 152, 116-122.	1.3	6

#	Article	IF	Citations
55	Airway strategy and chest compression quality in the Pragmatic Airway Resuscitation Trial. Resuscitation, 2021, 162, 93-98.	1.3	6
56	Novel application of thoracic impedance to characterize ventilations during cardiopulmonary resuscitation in the pragmatic airway resuscitation trial. Resuscitation, 2021, 168, 58-64.	1.3	6
57	Airway strategy and ventilation rates in the pragmatic airway resuscitation trial. Resuscitation, 2022, 176, 80-87.	1.3	6
58	A simple effective filtering method for removing CPR caused artefacts from surface ECG signals. , 2005, , .		5
59	A Robust Machine Learning Architecture for a Reliable ECG Rhythm Analysis during CPR. , 2019, 2019, 1903-1907.		5
60	A Machine Learning Model for the Prognosis of Pulseless Electrical Activity during Out-of-Hospital Cardiac Arrest. Entropy, 2021, 23, 847.	1.1	5
61	A variable step size LMS algorithm for the suppression of the CPR artefact from a VF signal. , 2005, , .		4
62	ECG Rhythm Analysis During Manual Chest Compressions Using an Artefact Removal Filter and Random Forest Classifiers. , 0, , .		4
63	Physiological effects of providing supplemental air for avalanche victims. A randomised trial. Resuscitation, 2022, 172, 38-46.	1.3	4
64	CPR artefact removal from VF signals by means of an adaptive kalman filter using the chest compression frequency as reference signal. , 2005, , .		3
65	Use of the transthoracic impedance to determine CPR quality parameters. Resuscitation, 2010, 81, S52.	1.3	3
66	Difference in survival from pre-hospital cardiac arrest between cities and villages in the Basque Autonomous Community. Resuscitation, 2015, 96, 114.	1.3	3
67	Convolutional Recurrent Neural Networks to Characterize the Circulation Component in the Thoracic Impedance during Out-of-Hospital Cardiac Arrest. , 2019, 2019, 1921-1925.		3
68	Shock decision algorithm for use during load distributing band cardiopulmonary resuscitation. Resuscitation, 2021, 165, 93-100.	1.3	3
69	Comparative analysis of the parameters affecting AED rhythm analysis algorithm applied to pediatric and adult Ventricular Tachycardia. , 2007, , .		2
70	Parameters affecting shock decision in pediatric automated defibrillation. , 2008, , .		2
71	Characterization of the ECG compression artefact caused by the AutoPulse device. Resuscitation, 2017, 118, e38.	1.3	2
72	Removing Piston-driven Mechanical Chest Compression Artefacts from the ECG. , 2017, , .		2

#	Article	IF	Citations
73	Evaluation of chest compression artefact removal based on rhythm assessments made by clinicians. Resuscitation, 2018, 125, 104-110.	1.3	2
74	ECG characteristics of Pulseless Electrical Activity associated with Return of Spontaneous Circulation in Out-of-Hospital Cardiac Arrest. Resuscitation, 2018, 130, e54.	1.3	2
75	Deep Learning for Pulse Detection in Out-of-Hospital Cardiac Arrest Using the ECG. , 2018, , .		2
76	A Machine Learning-Based Pulse Detection Algorithm for Use During Cardiopulmonary Resuscitation. , 2021, , .		2
77	Sequential VT/VF discrimination algorithm based on wave mode sample entropy for adult and pediatric patients. , 2007, , .		1
78	A pediatric shock advice algorithm based on the regularity of the detected beats. , 2008, , .		1
79	Rhythm analysis during chest compressions: An artefact suppression method using the compression force as the reference signal. Resuscitation, 2010, 81, S14-S15.	1.3	1
80	A simple shock advice algorithm for automated external defibrillators compliant with the American Heart Association's recommendations. Resuscitation, 2012, 83, e67.	1.3	1
81	Automatic detection of chest compression pauses for rhythm analysis during 30:2 CPR in an ALS scenario. Resuscitation, 2014, 85, S9.	1.3	1
82	Sample entropy as a shock outcome predictor during basis life support. , 2015, , .		1
83	Evolution of AMSA for shock success prediction during the pre-shock pause. Resuscitation, 2015, 96, 21-22.	1.3	1
84	Feasibility of the finger photoplethysmography to give feedback on chest compression rate. Resuscitation, 2018, 130, e31.	1.3	1
85	Removing mechanical chest compression artefacts induced by a load distributing band device from the ECG. Resuscitation, 2018, 130, e41.	1.3	1
86	Impedance Based Automatic Detection of Ventilations During Mechanical Cardiopulmonary Resuscitation. , 2019, 2019, 19-23.		1
87	Monitoring the Heart Rate in Cerebral Oximetry Signals. , 0, , .		1
88	Cerebral Oximetry Versus Pulse Photoplethysmography to Monitor Respiration Rate. , 0, , .		1
89	Finger Photoplethysmography to Monitor Chest Compression Rate During Out-of-Hospital Cardiac Arrest. , 0, , .		1
90	An algorithm to discriminate SVT from VT in pediatric AED based on spectral parameters. , 2008, , .		0

#	ARTICLE	IF	CITATIONS
91	AED for Paediatric Use, Implications in the Design of Shock Advice Algorithms. , 2011, , .		0
92	Recommendations of the American Heart Association on the rhythm library specifications for the development of shock advice algorithms: Do they reflect the real scenario?. Resuscitation, 2012, 83, e66-e67.	1.3	0
93	Generation of chest compression artefacts on the ECG and the thoracic impedance signals in a manikin model. Resuscitation, 2014, 85, S107.	1.3	0
94	Quality of chest compressions for EMT CPR in the Basque Autonomous Community. Resuscitation, 2015, 96, 71-72.	1.3	0
95	A method to measure ventilation rate during cardiopulmonary resuscitation using the capnogram. , 2015, , .		0
96	Differences in AMSA based shock outcome prediction between shock success and hospital admission and discharge. Resuscitation, 2015, 96, 22.	1.3	0
97	Characterization of the thoracic impedance waveform fluctuations during controlled ventilation modes. Resuscitation, 2018, 130, e106.	1.3	0
98	An Accurate Shock/No-Shock Decision Algorithm for Use During Piston-Driven Chest Compressions. , 0, , .		0
99	Evaluation of the increase in cerebral oximeter saturation during out-of-hospital mechanical chest compression sequences. Resuscitation, 2018, 130, e105.	1.3	0
100	Noninvasive Monitoring of Manual Ventilation during Out-of- Hospital Cardiopulmonary Resuscitation. , 2019, , .		0
101	A Hidden Markov Model Approach for Ventricular Fibrillation Detection. , 0, , .		0
102	To interrupt, or not to interrupt chest compressions for ventilation: that is the question!. Journal of Thoracic Disease, 2016, 8, E121-3.	0.6	0
103	Recurrent Neural Networks to Predict the Outcome of Subsequent Defibrillation Shocks in Cardiac Arrest. , 2021, , .		0