

Jayaraj Joseph

List of Publications by Year in descending order

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151
papers

1,519
citations

567281

15
h-index

552781

26
g-index

151
all docs

151
docs citations

151
times ranked

1015
citing authors

#	ARTICLE	IF	CITATIONS
1	Local Pulse Wave Velocity: Theory, Methods, Advancements, and Clinical Applications. IEEE Reviews in Biomedical Engineering, 2020, 13, 74-112.	18.0	90
2	Psi-Net: Shape and boundary aware joint multi-task deep network for medical image segmentation. , 2019, 2019, 7223-7226.		75
3	Bi-Modal Arterial Compliance Probe for Calibration-Free Cuffless Blood Pressure Estimation. IEEE Transactions on Biomedical Engineering, 2018, 65, 2392-2404.	4.2	51
4	Technical Validation of ARTSENSâ€“An Image Free Device for Evaluation of Vascular Stiffness. IEEE Journal of Translational Engineering in Health and Medicine, 2015, 3, 1-13.	3.7	50
5	Arterial Blood Pressure Estimation From Local Pulse Wave Velocity Using Dual-Element Photoplethysmograph Probe. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 1399-1408.	4.7	46
6	ECGNet: Deep Network for Arrhythmia Classification. , 2018, , .		43
7	Automatic Measurement of End-Diastolic Arterial Lumen Diameter in ARTSENS. Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.7	42
8	Automated system for imageless evaluation of arterial compliance. , 2012, 2012, 227-31.		39
9	Physiological signal based work stress detection using unobtrusive sensors. Biomedical Physics and Engineering Express, 2018, 4, 065001.	1.2	39
10	RPnet: A Deep Learning approach for robust R Peak detection in noisy ECG. , 2020, 2020, 345-348.		38
11	Wearable ECG platform for continuous cardiac monitoring. , 2016, 2016, 623-626.		37
12	A Magnetic Plethysmograph Probe for Local Pulse Wave Velocity Measurement. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1065-1076.	4.0	37
13	RespNet: A deep learning model for extraction of respiration from photoplethysmogram. , 2019, 2019, 5556-5559.		36
14	A Virtual Instrument for Automated Measurement of Arterial Compliance. Journal of Medical Devices, Transactions of the ASME, 2010, 4, .	0.7	35
15	Arterial compliance probe for cuffless evaluation of carotid pulse pressure. PLoS ONE, 2018, 13, e0202480.	2.5	29
16	Accelerometer based system for continuous respiratory rate monitoring. , 2017, , .		28
17	Assessment of Carotid Arterial Stiffness in Community Settings With ARTSENSÂ®. IEEE Journal of Translational Engineering in Health and Medicine, 2021, 9, 1-11.	3.7	28
18	A Cellulose Paper-Based Fluorescent Lateral Flow Immunoassay for the Quantitative Detection of Cardiac Troponin I. Biosensors, 2021, 11, 49.	4.7	28

#	ARTICLE	IF	CITATIONS
19	ARTSENS [®] Pen [®] portable easy-to-use device for carotid stiffness measurement: technology validation and clinical-utility assessment. Biomedical Physics and Engineering Express, 2020, 6, 025013.	1.2	27
20	Design, development and clinical validation of a wrist-based optical heart rate monitor. , 2016, , .		26
21	Evaluation of the algorithm for automatic identification of the common carotid artery in ARTSENS. Physiological Measurement, 2014, 35, 1299-1317.	2.1	24
22	Non-contact sensing of neonatal pulse rate using camera-based imaging: a clinical feasibility study. Physiological Measurement, 2020, 41, 024001.	2.1	20
23	A paper microfluidics-based fluorescent lateral flow immunoassay for point-of-care diagnostics of non-communicable diseases. Analyst, The, 2019, 144, 6291-6303.	3.5	19
24	ARTSENS - An image-free system for noninvasive evaluation of arterial compliance. , 2013, 2013, 4054-7.		18
25	Magnetic plethysmograph transducers for local blood pulse wave velocity measurement. , 2014, 2014, 1953-6.		18
26	PPGnet: Deep Network for Device Independent Heart Rate Estimation from Photoplethysmogram. , 2019, 2019, 1899-1902.		17
27	Interpreting Deep Neural Networks for Single-Lead ECG Arrhythmia Classification. , 2020, 2020, 300-303.		16
28	Carotid and Jugular Classification in ARTSENS. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 440-449.	6.3	15
29	An Imageless Ultrasound Device to Measure Local and Regional Arterial Stiffness. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 200-208.	4.0	15
30	Accelerometric patch probe for cuffless blood pressure evaluation from carotid local pulse wave velocity: design, development, and <i>in vivo</i> experimental study. Biomedical Physics and Engineering Express, 2019, 5, 045010.	1.2	15
31	Development and Evaluation of a Quantitative Fluorescent Lateral Flow Immunoassay for Cystatin-C, a Renal Dysfunction Biomarker. Sensors, 2021, 21, 3178.	3.8	15
32	Ultrasound signal quality parameterization for image-free evaluation of arterial stiffness. , 2014, 2014, 2326-9.		14
33	An improved method for detection of carotid walls in ARTSENS. , 2014, 2014, 1957-60.		14
34	Electrodermal Activity based Classification of Induced Stress in a Controlled Setting. , 2018, , .		14
35	Polyp Segmentation using Generative Adversarial Network. , 2019, 2019, 7201-7204.		14
36	Fast body part segmentation and tracking of neonatal video data using deep learning. Medical and Biological Engineering and Computing, 2020, 58, 3049-3061.	2.8	14

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37	A PC based system for non-invasive measurement of carotid artery compliance. , 2009, , .		13
38	ARTSENSÂ® Pen: A portable, image-free device for automated evaluation of vascular stiffness. , 2016, , .		13
39	Single source photoplethysmograph transducer for local pulse wave velocity measurement. , 2016, 2016, 4256-4259.		13
40	Experimental validation of dual PPG local pulse wave velocity probe. , 2017, , .		13
41	Cataract surgery in mobile eye surgical unit: Safe and viable alternative. Indian Journal of Ophthalmology, 2016, 64, 835.	1.1	12
42	Automated measurement of compression-decompression in arterial diameter and wall thickness by image-free ultrasound. Computer Methods and Programs in Biomedicine, 2020, 194, 105557.	4.7	12
43	Automatic measurement of lumen diameter of carotid artery in A-Mode ultrasound. , 2013, 2013, 3873-6.		11
44	Arterial compliance probe for local blood pulse wave velocity measurement. , 2015, 2015, 5712-5.		11
45	Image-free ultrasound for local and regional vascular stiffness assessment: the ARTSENS Plus. Journal of Hypertension, 2022, 40, 1537-1544.	0.5	11
46	Printed, skin-mounted hybrid system for ECG measurements. , 2016, , .		10
47	Machine Learning based SpO2 Computation Using Reflectance Pulse Oximetry. , 2019, 2019, 482-485.		10
48	A virtual instrument for real time in vivo measurement of carotid artery compliance. , 2008, 2008, 2281-4.		9
49	Magnetic sensor for non-invasive detection of blood pulse and estimation of arterial compliance. , 2010, , .		9
50	Image-free evaluation of carotid artery stiffness using ARTSENS: A repeatability study. , 2014, 2014, 4799-802.		9
51	Arterial compliance probe for calibration free pulse pressure measurement. , 2016, , .		9
52	An accelerometer probe for local pulse wave velocity measurement. , 2017, , .		9
53	Deep Network for Capacitive ECG Denoising. , 2019, , .		9
54	A novel system to tackle hospital acquired pressure ulcers. , 2016, 2016, 4780-4783.		8

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55	Dry Electrode Optimization for Wrist-based Electrodermal Activity Monitoring. , 2018, , .		8
56	A novel magnetic plethysmograph for non-invasive evaluation of arterial compliance. , 2012, 2012, 1169-72.		7
57	Image based quantitative reader for Lateral flow immunofluorescence assay. , 2015, 2015, 1223-6.		7
58	A wrist worn SpO ₂ monitor with custom finger probe for motion artifact removal. , 2016, 2016, 5777-5780.		7
59	iQuantâ„¢ Analyser: A rapid quantitative immunoassay reader. , 2017, 2017, 3732-3736.		7
60	Continuous Weight Monitoring System for ICU Beds using Air-filled Mattresses/Pads: A Proof of Concept. , 2019, , .		7
61	Accuracy Enhancement of Total Force by Capacitive Insoles. , 2019, , .		7
62	A Machine Learning Pipeline for Measurement of Arterial Stiffness in A-Mode Ultrasound. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 106-113.	3.0	7
63	Development and Evaluation of Europium-Based Quantitative Lateral Flow Immunoassay for the Chronic Kidney Disease Marker Cystatin-C. Journal of Fluorescence, 2022, 32, 419-426.	2.5	7
64	Camera fusion for real-time temperature monitoring of neonates using deep learning. Medical and Biological Engineering and Computing, 2022, 60, 1787-1800.	2.8	7
65	An improved echo tracking algorithm for arterial distensibility measurements. , 2009, , .		6
66	ARTSENSTouch - A portable device for evaluation of carotid artery stiffness. , 2015, 2015, 3755-8.		6
67	Evaluation of Local Pulse Wave Velocity using an Image Free Ultrasound Technique. , 2018, , .		6
68	HRV based Stress Assessment of Individuals in a Work Environment. , 2020, , .		6
69	ImQuant â€” An image based fluorescence reader for quantitative lateral flow immunoassays. , 2016, 2016, 5152-5155.		5
70	Differential effects of physical and psychological stressors on electrodermal activity. , 2017, 2017, 4549-4552.		5
71	A Motion Free Image Based TRF Reader for Quantitative Immunoassay. , 2019, , .		5
72	Pre-surgery Stress Monitoring Using Heart Rate Variability Measures. , 2019, 2019, 4592-4595.		5

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73	A Bi-modal Probe Integrated with A-mode Ultrasound and Force Sensor for Single-site Assessment of Arterial Pressure-Diameter Loop. , 2020, , .		5
74	Association of incremental pulse wave velocity with cardiometabolic risk factors. Scientific Reports, 2021, 11, 15413.	3.3	5
75	A novel time-resolved fluorescent lateral flow immunoassay for quantitative detection of the trauma brain injury biomarker-glia fibrillary acidic protein. Sensors & Diagnostics, 2022, 1, 193-197.	3.8	5
76	High-frame-rate A-mode ultrasound for calibration-free cuffless carotid pressure: feasibility study using lower body negative pressure intervention. Blood Pressure, 2022, 31, 19-30.	1.5	5
77	Design and preliminary analysis of a multifrequency bioimpedance measurement scheme. , 2016, , .		4
78	ImageQuant: An image-based quantitative Immunoassay Analyzer. , 2017, , .		4
79	Measurement of carotid blood pressure and local pulse wave velocity changes during cuff induced hyperemia. , 2017, 2017, 1700-1703.		4
80	An Accelerometric Sensor System With Integrated Hydrostatic Pressure Correction to Assess Carotid Arterial Stiffness. IEEE Sensors Journal, 2021, 21, 11163-11175.	4.7	4
81	IQVision: An Image-Based Evaluation Tool for Quantitative Lateral Flow Immunoassay Kits. Biosensors, 2021, 11, 211.	4.7	4
82	Separation of Forward-Backward Waves in the Arterial System using Multi-Gaussian Approach from Single Pulse Waveform. , 2021, 2021, 5547-5550.		4
83	Image-Free Fast Ultrasound for Measurement of Local Pulse Wave Velocity: In Vitro Validation and In Vivo Feasibility. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 2248-2256.	3.0	4
84	Arterial pressure pulse wave separation analysis using a multi-Gaussian decomposition model. Physiological Measurement, 2022, 43, 055005.	2.1	4
85	Non-invasive estimation of arterial compliance. , 2011, , .		3
86	PhoneQuant: A smartphone-based quantitative immunoassay analyser. , 2017, 2017, 4247-4250.		3
87	An Improved System for Quantitative Immunoassay Measurement in ImageQuant. , 2018, , .		3
88	Reflectance Pulse Oximetry for Blood Oxygen Saturation Measurement from Diverse Locations-A Preliminary Analysis. , 2018, , .		3
89	Post-Stroke Rehabilitation Monitoring Using Wireless Surface Electromyography: A Case Study. , 2018, , .		3
90	Robust Modelling of Reflectance Pulse Oximetry for SpO2 Estimation. , 2020, 2020, 374-377.		3

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91	Conv-MCD: A Plug-and-Play Multi-task Module for Medical Image Segmentation. Lecture Notes in Computer Science, 2019, , 292-300.	1.3	3
92	Community seroprevalence and risk factors for SARS-CoV-2 infection in different subpopulations in Vellore, India, and their implications for future prevention. International Journal of Infectious Diseases, 2022, 116, 138-146.	3.3	3
93	Local Pulse Wave Velocity estimation using Magnetic Plethysmograph. , 2013, 2013, 2287-90.		2
94	Comparison of measurement of the augmentation index from ARTSENS and eTRACKING. Biomedical Physics and Engineering Express, 2016, 2, 015007.	1.2	2
95	An image-free ultrasound method to estimate artery wall thickness surrogate for screening. , 2017, , .		2
96	High altitude study on finger reflectance SpO ₂ . , 2017, , .		2
97	Brachial artery stiffness estimation using ARTSENS. , 2017, 2017, 262-265.		2
98	Clinical Validation of a Wearable Respiratory Rate Device for Neonatal Monitoring. , 2018, 2018, 1628-1631.		2
99	Deep Learning for Blood Pressure Estimation: an Approach using Local Measure of Arterial Dual Diameter Waveforms. , 2019, , .		2
100	Image-Free Technique for Flow Mediated Dilation Using ARTSENS [®] Pen. , 2019, 2019, 5051-5054.		2
101	Cuffless Evaluation of Arterial Pressure Waveform using Flexible Force Sensor: A Proof of Principle. , 2019, , .		2
102	Methodological and Measurement Concerns of Local Pulse Wave Velocity Assessment. , 2019, , .		2
103	Cuffless Blood Pressure Estimation Using Features Extracted from Carotid Dual-Diameter Waveforms. , 2020, 2020, 2719-2722.		2
104	An Image-Free Ultrasound Device for Simultaneous Measurement of Local and Regional Arterial Stiffness Indices. , 2021, , .		2
105	Deep detection and classification of mitotic figures. , 2019, , .		2
106	On the use of concurrent high frequency excitation during a short circuit test in a power transformer. , 2009, , .		1
107	Measurements for proof of concept validation of a twin unidirectional turbine wave energy plant. , 2009, , .		1
108	A study on the use of PPG in quantifying circulatory disruptions. , 2014, 2014, 1739-42.		1

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109	Vascular compliance probe with integrated ECG for image-free evaluation of arterial stiffness. , 2014, , .		1
110	Sparse models for determining arterial dynamics. , 2015, , .		1
111	A reflectance photoplethysmography based device to detect circulatory disruptions. , 2016, , .		1
112	An image based quantitative fluorescence immunoassay reader for HbA1c testing: Calibration & repeatability study. , 2016, , .		1
113	Design, development and clinical validation of a novel urine output monitor. , 2017, , .		1
114	Design and implementation of a hand-to-hand multifrequency bioimpedance measurement scheme for Total Body Water estimation. , 2017, , .		1
115	Vascular Wall Stiffness Indices Detection Using an Accelerometer-Based System. , 2018, , .		1
116	Local Evaluation of Variation in Pulse Wave Velocity over the Cardiac Cycle using Single-Element Ultrasound Transducer. , 2018, 2018, 4560-4563.		1
117	Non-Invasive Assessment of Local Pulse Wave Velocity as Function of Arterial Pressure. , 2018, , .		1
118	Image-based Tracking of Immunoassay Reaction Progress in Quantitative Lateral Flow Kits. , 2019, , .		1
119	Arterial Stiffness in Elastic and Muscular Arteries: Measurement using ARTSENS Pen. , 2019, , .		1
120	Continuous Assessment of Carotid Diameter using an Accelerometer Patch Probe for Ambulatory Arterial Stiffness Monitoring. , 2019, 2019, 5038-5041.		1
121	Multimodal Image-Free Ultrasound Technique for Evaluation of Arterial Viscoelastic Properties: A Feasibility Study. , 2019, 2019, 5034-5037.		1
122	Blood Pressure Estimation using Arterial Diameter: Exploring Different Machine Learning Methods. , 2020, , .		1
123	iQPrep Kit: A milli-fluidic test kit for immunodiagnosics. , 2020, , .		1
124	Carotid Stiffness Variations in the Presence of Established Risk Factors: Observations from a Clinical Study Using ARTSENS. , 2020, , .		1
125	Feasibility Study of Arterial Stiffness Monitoring based on Reflected Wave Transit Time using Carotid Acceleration Plethysmogram. , 2020, , .		1
126	iQuant Auto: Automated Rapid Test Platform for Immunodiagnosics. , 2020, 2020, 6131-6134.		1

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127	A Study on the Subject and Location Specificity in Reflectance based SpO2 Estimation using R-value based Calibration Curve. , 2020, , .		1
128	Evaluation of Vascular Pulse Contour Indices over the Physiological Blood Pressure Ranges in an Anesthetized Porcine Model. , 2021, 2021, 5594-5597.		1
129	Gaussian-Mixture Modelling of A-Mode Radiofrequency Scans for the Measurement of Arterial Wall Thickness. , 2021, 2021, 5598-5601.		1
130	Single M-Line Is as Reliable as Multiple M-Line Ultrasound for Carotid Artery Screening. Frontiers in Physiology, 2021, 12, 787083.	2.8	1
131	ARTSENSÂ® mobile: A portable image-free platform for automated evaluation of vascular stiffness. , 2016, 2016, 5204-5207.		0
132	Sparse models and recursive computations for determining arterial dynamics. Biomedical Signal Processing and Control, 2017, 38, 9-21.	5.7	0
133	ARTSENSÂ® orientation navigation system: A study towards faster arterial stiffness measurements. , 2017, 2017, 1380-1384.		0
134	System design to prevent Ventilator Associated Pneumonia. , 2017, , .		0
135	An In-Vivo Study on Intra-Day Variations in Vascular Stiffness using ARTSENS Pen. , 2018, 2018, 4575-4578.		0
136	Carotid Local Pulse Wave Velocity Measurement using Dual- Element Accelerometric Patch Probe. , 2018, 2018, 4571-4574.		0
137	Live Demonstration of ARTSENSÂ® Pen-An Image-Free Ultrasound Device for Automated Evaluation of Vascular Stiffness. , 2018, , .		0
138	Measurement of Left Ventricular Parameters using Ultrasound Transducer â€“ a preliminary study. , 2018, , .		0
139	Measurement of Arterial Young's Elastic Modulus using ARTSENS Pen. , 2018, , .		0
140	Fall Detection Using Kinematic Features from a Wrist-Worn Inertial Sensor. , 2019, , .		0
141	Analytic Phase Based Approach for Arterial Diameter Evaluation Using A-Mode Ultrasound Frames. , 2019, , .		0
142	Multi-cartridge Fluorescence Reader for Quantitative Immunoassays. , 2019, 2019, 5447-5450.		0
143	A Portable Colorimetric Reader for Early and Rapid Diagnosis of Sepsis. , 2019, , .		0
144	High-Throughput Vascular Screening by ARTSENS Pen During a Medical Camp for Early-Stage Detection of Chronic Kidney Disease. , 2020, 2020, 2752-2755.		0

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145	Repeatability Study of Local Vascular Stiffness Measurement Using Carotid Surface Acceleration Plethysmogram. , 2020, 2020, 2699-2702.		0
146	Demonstration of Pressure-Dependent Inter and Intra-Cycle Variations in Local Pulse Wave Velocity Using Excised Bovine Carotid Artery. , 2020, 2020, 2707-2710.		0
147	A Dynamic Time Warping Method for Improved Arterial Wall-Tracking using A-mode Ultrasound Frames: A Proof-of-Concept. , 2020, , .		0
148	Multi-Gaussian Model for Estimating Stiffness Surrogate using Arterial Diameter Waveform. , 2021, , .		0
149	Phantom Evaluation of a Time Warping Based Automated Arterial Wall Recognition and Tracking Method. , 2021, , .		0
150	High-Framerate A-Mode Ultrasound for Vascular Structural Assessments: In-Vivo Validation in a Porcine Model. , 2021, 2021, 5602-5605.		0
151	Phantom Assessment of an Image-free Ultrasound Technology for Online Local Pulse Wave Velocity Measurement. , 2021, 2021, 5610-5613.		0