

Ganesh R Naik

List of Publications by Year in descending order

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147
papers

3,692
citations

136885

32
h-index

168321

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149
all docs

149
docs citations

149
times ranked

3427
citing authors

#	ARTICLE	IF	CITATIONS
1	Driver Fatigue Classification With Independent Component by Entropy Rate Bound Minimization Analysis in an EEG-Based System. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2017, 21, 715-724.	3.9	205
2	Real-Time EMG Based Pattern Recognition Control for Hand Prostheses: A Review on Existing Methods, Challenges and Future Implementation. <i>Sensors</i> , 2019, 19, 4596.	2.1	195
3	Progress in Brain Computer Interface: Challenges and Opportunities. <i>Frontiers in Systems Neuroscience</i> , 2021, 15, 578875.	1.2	128
4	Transradial Amputee Gesture Classification Using an Optimal Number of sEMG Sensors: An Approach Using ICA Clustering. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2016, 24, 837-846.	2.7	127
5	Single-Channel EMG Classification With Ensemble-Empirical-Mode-Decomposition-Based ICA for Diagnosing Neuromuscular Disorders. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2016, 24, 734-743.	2.7	125
6	Twin SVM for Gesture Classification Using the Surface Electromyogram. <i>IEEE Transactions on Information Technology in Biomedicine</i> , 2010, 14, 301-308.	3.6	117
7	Improving EEG-Based Driver Fatigue Classification Using Sparse-Deep Belief Networks. <i>Frontiers in Neuroscience</i> , 2017, 11, 103.	1.4	109
8	Nonnegative Matrix Factorization for the Identification of EMG Finger Movements: Evaluation Using Matrix Analysis. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2015, 19, 478-485.	3.9	107
9	CNN based approach for activity recognition using a wrist-worn accelerometer. , 2017, 2017, 2438-2441.		85
10	A Comparison of Reflective Photoplethysmography for Detection of Heart Rate, Blood Oxygen Saturation, and Respiration Rate at Various Anatomical Locations. <i>Sensors</i> , 2019, 19, 1874.	2.1	84
11	A Customized VGG19 Network with Concatenation of Deep and Handcrafted Features for Brain Tumor Detection. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 3429.	1.3	84
12	A Piezoresistive Sensor to Measure Muscle Contraction and Mechanomyography. <i>Sensors</i> , 2018, 18, 2553.	2.1	83
13	Problems in Assessment of Novel Biopotential Front-End with Dry Electrode: A Brief Review. <i>Machines</i> , 2014, 2, 87-98.	1.2	77
14	Multinight Prevalence, Variability, and Diagnostic Misclassification of Obstructive Sleep Apnea. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2022, 205, 563-569.	2.5	72
15	Retinal Fundus Image Analysis for Diagnosis of Glaucoma: A Comprehensive Survey. <i>IEEE Access</i> , 2016, 4, 4327-4354.	2.6	71
16	Ponseti method in the management of clubfoot under 2 years of age: A systematic review. <i>PLoS ONE</i> , 2017, 12, e0178299.	1.1	63
17	Principal Component Analysis Applied to Surface Electromyography: A Comprehensive Review. <i>IEEE Access</i> , 2016, 4, 4025-4037.	2.6	58
18	An ICA-EBM-Based sEMG Classifier for Recognizing Lower Limb Movements in Individuals With and Without Knee Pathology. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 675-686.	2.7	55

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19	Enhanced Forensic Speaker Verification Using a Combination of DWT and MFCC Feature Warping in the Presence of Noise and Reverberation Conditions. IEEE Access, 2017, 5, 15400-15413.	2.6	53
20	Edge Effect Elimination in Single-Mixture Blind Source Separation. Circuits, Systems, and Signal Processing, 2013, 32, 2317-2334.	1.2	51
21	Nonlinear multiscale Maximal Lyapunov Exponent for accurate myoelectric signal classification. Applied Soft Computing Journal, 2015, 36, 633-640.	4.1	50
22	Automated detection of congestive heart failure from electrocardiogram signal using Stockwell transform and hybrid classification scheme. Computer Methods and Programs in Biomedicine, 2019, 173, 53-65.	2.6	49
23	A Piezoresistive Array Armband With Reduced Number of Sensors for Hand Gesture Recognition. Frontiers in Neurobotics, 2019, 13, 114.	1.6	48
24	A supervised blood vessel segmentation technique for digital Fundus images using Zernike Moment based features. PLoS ONE, 2020, 15, e0229831.	1.1	47
25	Signal processing evaluation of myoelectric sensor placement in low-level gestures: sensitivity analysis using independent component analysis. Expert Systems, 2014, 31, 91-99.	2.9	46
26	Detection of Life Threatening Ventricular Arrhythmia Using Digital Taylor Fourier Transform. Frontiers in Physiology, 2018, 9, 722.	1.3	42
27	Automated detection and correction of eye blink and muscular artefacts in EEG signal for analysis of Autism Spectrum Disorder. , 2014, 2014, 1881-4.		41
28	Towards Real-Time Heartbeat Classification: Evaluation of Nonlinear Morphological Features and Voting Method. Sensors, 2019, 19, 5079.	2.1	41
29	Identification of Hand and Finger Movements Using Multi Run ICA of Surface Electromyogram. Journal of Medical Systems, 2012, 36, 841-851.	2.2	39
30	Validity and everyday clinical applicability of lumbar muscle fatigue assessment methods in patients with chronic non-specific low back pain: a systematic review. Disability and Rehabilitation, 2016, 38, 1859-1871.	0.9	39
31	Using Blind Source Separation on accelerometry data to analyze and distinguish the toe walking gait from normal gait in ITW children. Biomedical Signal Processing and Control, 2014, 13, 41-49.	3.5	38
32	Locomo-Net: A Low -Complex Deep Learning Framework for sEMG-Based Hand Movement Recognition for Prosthetic Control. IEEE Journal of Translational Engineering in Health and Medicine, 2020, 8, 1-12.	2.2	38
33	Detection of Atrial Fibrillation from Single Lead ECG Signal Using Multirate Cosine Filter Bank and Deep Neural Network. Journal of Medical Systems, 2020, 44, 114.	2.2	36
34	Measuring Increase in Synchronization to Identify Muscle Endurance Limit. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 578-587.	2.7	35
35	Classification of EEG based-mental fatigue using principal component analysis and Bayesian neural network. , 2016, 2016, 4654-4657.		35
36	Online and automated reliable system design to remove blink and muscle artefact in EEG. , 2015, 2015, 6784-7.		33

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37	Computation and Evaluation of Features of Surface Electromyogram to Identify the Force of Muscle Contraction and Muscle Fatigue. BioMed Research International, 2014, 2014, 1-6.	0.9	32
38	Forcecardiography: A Novel Technique to Measure Heart Mechanical Vibrations onto the Chest Wall. Sensors, 2020, 20, 3885.	2.1	32
39	Applications of ICA and fractal dimension in sEMG signal processing for subtle movement analysis: a review. Australasian Physical and Engineering Sciences in Medicine, 2011, 34, 179-193.	1.4	30
40	A Novel Broadband Forcecardiography Sensor for Simultaneous Monitoring of Respiration, Infrasonic Cardiac Vibrations and Heart Sounds. Frontiers in Physiology, 2021, 12, 725716.	1.3	30
41	Multi run ICA and surface EMG based signal processing system for recognising hand gestures. , 2008, , .		28
42	Pattern classification of Myo-Electrical signal during different Maximum Voluntary Contractions: A study using BSS techniques. Measurement Science Review, 2010, 10, 1-6.	0.6	28
43	Single channel blind source separation based local mean decomposition for Biomedical applications. , 2013, 2013, 6812-5.		28
44	Dependence Independence Measure for Posterior and Anterior EMG Sensors Used in Simple and Complex Finger Flexion Movements: Evaluation Using SDICA. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 1689-1696.	3.9	28
45	Laparoscopic Robotic Surgery: Current Perspective and Future Directions. Robotics, 2020, 9, 42.	2.1	28
46	Biosignal-Based Humanâ€“Machine Interfaces for Assistance and Rehabilitation: A Survey. Sensors, 2021, 21, 6863.	2.1	28
47	Design of a 3D-Printed Hand Exoskeleton Based on Force-Myography Control for Assistance and Rehabilitation. Machines, 2022, 10, 57.	1.2	27
48	Estimation of independent and dependent components of non-invasive EMG using fast ICA: validation in recognising complex gestures. Computer Methods in Biomechanics and Biomedical Engineering, 2011, 14, 1105-1111.	0.9	26
49	Hybrid brainâ€“computer interface for biomedical cyber-physical system application using wireless embedded EEG systems. BioMedical Engineering OnLine, 2017, 16, 5.	1.3	25
50	Respiration Monitoring via Forcecardiography Sensors. Sensors, 2021, 21, 3996.	2.1	25
51	A new technique for the prediction of heart failure risk driven by hierarchical neighborhood component-based learning and adaptive multi-layer networks. Future Generation Computer Systems, 2020, 110, 781-794.	4.9	22
52	Dynamically identifying relevant EEG channels by utilizing channels classification behaviour. Expert Systems With Applications, 2017, 83, 273-282.	4.4	21
53	Epilepsy attacks recognition based on 1D octal pattern, wavelet transform and EEG signals. Multimedia Tools and Applications, 2021, 80, 25197-25218.	2.6	21
54	Electro-resistive bands for non-invasive cardiac and respiration monitoring, a feasibility study. Physiological Measurement, 2015, 36, N35-N49.	1.2	20

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55	Detection of turning freeze in Parkinson's disease based on S-transform decomposition of EEG signals. , 2017, 2017, 3044-3047.		20
56	Low-complexity hardware design methodology for reliable and automated removal of ocular and muscular artifact from EEG. Computer Methods and Programs in Biomedicine, 2018, 158, 123-133.	2.6	20
57	Classification of finger extension and flexion of EMG and Cyberglove data with modified ICA weight matrix. , 2014, 2014, 3829-32.		19
58	A Wearable Contactless Sensor Suitable for Continuous Simultaneous Monitoring of Respiration and Cardiac Activity. Journal of Sensors, 2015, 2015, 1-6.	0.6	19
59	Non-negative Matrix Factorization Techniques. Signals and Communication Technology, 2016, , .	0.4	19
60	New and Emerging Approaches to Better Define Sleep Disruption and Its Consequences. Frontiers in Neuroscience, 2021, 15, 751730.	1.4	18
61	A machine learning based method for classification of fractal features of forearm sEMG using Twin Support vector machines. , 2010, 2010, 4821-4.		17
62	Subtle Hand Gesture Identification for HCI Using Temporal Decorrelation Source Separation BSS of Surface EMG. , 2007, , .		16
63	Determining Number of Independent Sources in Undercomplete Mixture. Eurasip Journal on Advances in Signal Processing, 2009, 2009, .	1.0	16
64	Audio analysis of statistically instantaneous signals with mixed Gaussian probability distributions. International Journal of Electronics, 2012, 99, 1333-1350.	0.9	16
65	Computational Algorithms Underlying the Time-Based Detection of Sudden Cardiac Arrest via Electrocardiographic Markers. Applied Sciences (Switzerland), 2017, 7, 954.	1.3	16
66	A comparison of ICA algorithms in surface EMG signal processing. International Journal of Biomedical Engineering and Technology, 2011, 6, 363.	0.2	15
67	Design and assessment of a low-cost, electromyographically controlled, prosthetic hand. Medical Devices: Evidence and Research, 2013, 6, 97.	0.4	15
68	Continuous Vital Monitoring During Sleep and Light Activity Using Carbon-Black Elastomer Sensors. Sensors, 2020, 20, 1583.	2.1	15
69	Wearable Bluetooth Triage Healthcare Monitoring System. Sensors, 2021, 21, 7586.	2.1	15
70	A dynamic channel selection algorithm for the classification of EEG and EMG data. , 2016, , .		13
71	Investigating the role of combined acoustic-visual feedback in one-dimensional synchronous brain computer interfaces, a preliminary study. Medical Devices: Evidence and Research, 2012, 5, 81.	0.4	12
72	Testing of motor unit synchronization model for localized muscle fatigue. , 2009, 2009, 360-3.		11

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73	Hybrid independent component analysis and twin support vector machine learning scheme for subtle gesture recognition. Biomedizinische Technik, 2010, 55, 301-307.	0.9	11
74	Hybrid Feature Selection for Myoelectric Signal Classification Using MICA. Journal of Electrical Engineering, 2010, 61, 93-99.	0.4	11
75	Prediction of Freezing of Gait in Patients with Parkinson's Disease Using EEG Signals. Studies in Health Technology and Informatics, 2018, 246, 124-131.	0.2	11
76	ICA based identification of sources in sEMG. , 2007, , .		10
77	Evaluation of higher order statistics parameters for multi channel sEMG using different force levels. , 2011, 2011, 3869-72.		10
78	Independence Between Two Channels of Surface Electromyogram Signal to Measure the Loss of Motor Units. Measurement Science Review, 2015, 15, 152-155.	0.6	10
79	Detection of gait initiation Failure in Parkinson's disease based on wavelet transform and Support Vector Machine. , 2017, 2017, 3048-3051.		10
80	Does Heel Height Cause Imbalance during Sit-to-Stand Task: Surface EMG Perspective. Frontiers in Physiology, 2017, 8, 626.	1.3	10
81	Kurtosis and negentropy investigation of myo electric signals during different MVCs. , 2011, , .		9
82	Performance comparison of ICA algorithms for Isometric Hand gesture identification using Surface EMG. , 2007, , .		8
83	Estimation of Muscle Fatigue during Cyclic Contractions Using Source Separation Techniques. , 2009, , .		8
84	SUBTLE ELECTROMYOGRAPHIC PATTERN RECOGNITION FOR FINGER MOVEMENTS: A PILOT STUDY USING BSS TECHNIQUES. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250078.	0.3	8
85	Low Complexity Single Channel ICA Architecture Design Methodology for Pervasive Healthcare Applications. , 2016, , .		8
86	Channels selection using independent component analysis and scalp map projection for EEG-based driver fatigue classification. , 2017, 2017, 1808-1811.		8
87	Multi modal gesture identification for HCI using surface EMG. , 2008, , .		7
88	Use of sEMG in identification of low level muscle activities: Features based on ICA and fractal dimension. , 2009, 2009, 364-7.		7
89	Optimized phase-space reconstruction for accurate musical-instrument signal classification. Multimedia Tools and Applications, 2017, 76, 20719-20737.	2.6	7
90	Enhanced forensic speaker verification using multi-run ICA in the presence of environmental noise and reverberation conditions. , 2017, , .		7

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91	The Fusion of MRI and CT Medical Images Using Variational Mode Decomposition. Applied Sciences (Switzerland), 2021, 11, 10975.	1.3	7
92	Limitations and Applications of ICA for Surface Electromyogram. , 2006, 2006, 5739-42.		6
93	Classification of low level surface electromyogram using independent component analysis. IET Signal Processing, 2010, 4, 479.	0.9	6
94	A new approach to improve the quality of biosensor signals using Fast Independent Component Analysis: Feasibility study using EMG recordings. , 2013, 2013, 1927-9.		6
95	Selecting optimal EEG channels for mental tasks classification: An approach using ICA. , 2016, , .		6
96	Limitations and Applications of ICA in Facial sEMG and Hand Gesture sEMG for Human Computer Interaction. , 2007, , .		5
97	Addressing source separation and identification issues in surface EMG using blind source separation. , 2008, 2008, 1124-7.		5
98	Fractal feature of sEMG from Flexor digitorum superficialis muscle correlated with levels of contraction during low-level finger flexions. , 2010, 2010, 4614-7.		5
99	Towards classification of low-level finger movements using forearm muscle activation: a comparative study based on ICA and Fractal theory. International Journal of Biomedical Engineering and Technology, 2011, 6, 150.	0.2	5
100	FEATURES OF sEMG BASED ON SOURCE SEPARATION AND FRACTAL PROPERTIES TO DETECT WRIST MOVEMENTS. Biomedical Engineering - Applications, Basis and Communications, 2010, 22, 293-300.	0.3	4
101	Enhancement of the ill-conditioned original recordings using novel ICA technique. International Journal of Electronics, 2012, 99, 899-906.	0.9	4
102	Affordable low complexity heart/brain monitoring methodology for remote health care. , 2015, 2015, 5082-5.		4
103	An accurate clustering algorithm for fast protein-profiling using SCICA on MALDI-TOF. , 2015, , .		4
104	Wavelet PCA for automatic identification of walking with and without an exoskeleton on a treadmill using pressure and accelerometer sensors. , 2016, 2016, 1999-2002.		4
105	Shape memory alloy smart knee spacer to enhance knee functionality: Model design and finite element analysis. , 2016, 2016, 6046-6049.		4
106	Comparison of Bi-Wavelength and Tri-Wavelength Photoplethysmography Sensors Placed on the Forehead. , 2019, , .		4
107	Characterisation of Morphic Sensors for Body Volume and Shape Applications. Sensors, 2020, 20, 90.	2.1	4
108	LIMITATIONS AND APPLICATIONS OF ICA FOR SURFACE ELECTROMYOGRAM FOR IDENTIFYING HAND GESTURES. International Journal of Computational Intelligence and Applications, 2008, 07, 281-300.	0.6	3

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109	Inter-experimental discrepancy in facial muscle activity during vowel utterance. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 215-223.	0.9	3
110	Improving the quality of the audio sources using Gaussianity reduction technique. International Journal of Electronics, 2011, 98, 949-959.	0.9	3
111	Reconfigurable hardware-software codesign methodology for protein identification. , 2016, 2016, 2456-2459.		3
112	Novel Ti-Nb alloys with improved wear resistance for biomedical implant application. , 2016, 2016, 4208-4211.		3
113	A system for accelerometer-based gesture classification using artificial neural networks. , 2017, 2017, 4187-4190.		3
114	Changes in lower limb muscle synchronisation during walking on high-heeled shoes. Healthcare Technology Letters, 2018, 5, 236-238.	1.9	3
115	Bilingual text detection in natural scene images using invariant moments. Journal of Intelligent and Fuzzy Systems, 2019, 37, 6773-6784.	0.8	3
116	Implementation of the Biological Muscle Mechanism in HASEL Actuators to Leverage Electrohydraulic Principles and Create New Geometries. Actuators, 2021, 10, 38.	1.2	3
117	Comparison of Independence of Triceps Brachii and Biceps Brachii Between Paretic and Non-paretic Side During Different MVCs—A Case Study. Series in Bioengineering, 2020, , 71-79.	0.3	3
118	Multiscale PCA to distinguish regular and irregular surfaces using tri axial head and trunk acceleration signals. , 2015, 2015, 4122-5.		2
119	Fast underdetermined BSS architecture design methodology for real time applications. , 2015, 2015, 5408-11.		2
120	Classification of driver fatigue in an electroencephalography-based countermeasure system with source separation module. , 2015, 2015, 514-7.		2
121	Nonparametric dynamical model of cardiorespiratory responses at the onset and offset of treadmill exercises. Medical and Biological Engineering and Computing, 2018, 56, 2337-2351.	1.6	2
122	Groundtruth: A Matlab GUI for Artifact and Feature Identification in Physiological Signals. Frontiers in Physiology, 2019, 10, 850.	1.3	2
123	Electrodeless FSR Linear Envelope Signal for Muscle Contraction Measurement. , 2019, , .		2
124	Title is missing!. Journal of Medical and Biological Engineering, 2010, 30, 367.	1.0	2
125	Enhanced forensic speaker verification performance using the ICA-EBM algorithm under noisy and reverberant environments. Evolutionary Intelligence, 2021, 14, 1475-1494.	2.3	2
126	Surface electromyography classification using extreme learning machines and echo state networks. Research on Biomedical Engineering, 0, , 1.	1.5	2

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127	Reliability of facial muscle activity to identify vowel utterance. , 2008, , .		1
128	Identification of independent biological sensors-electromyogram example. , 2008, 2008, 1112-5.		1
129	Source identification and separation using sub-band ICA of sEMG. , 2008, , .		1
130	INDEPENDENT COMPONENT APPROACH TO THE ANALYSIS OF HAND GESTURE sEMG AND FACIAL sEMG. Biomedical Engineering - Applications, Basis and Communications, 2008, 20, 83-93.	0.3	1
131	Spectral properties of surface EMG and muscle conduction velocity: A study based on sEMG model. , 2011, , .		1
132	Remote rapid prototyping manufacturing network using optimization recurrent hidden Markov models. JVC/Journal of Vibration and Control, 2012, 18, 2122-2128.	1.5	1
133	Investigation of age and gender related changes in force of isometric contraction, muscle endurance and muscle strength among young and old healthy people. , 2012, , .		1
134	Differences in lower limb muscle activation patterns during Sit to Stand Task for different heel heights. , 2017, 2017, 2486-2489.		1
135	Shape memory effect of nano-ferromagnetic particle doped NiTi for orthopedic devices and rehabilitation techniques. , 2017, 2017, 950-953.		1
136	A Methodology for Synthesizing Interdependent Multichannel EEG Data with a Comparison Among Three Blind Source Separation Techniques. Lecture Notes in Computer Science, 2015, , 154-161.	1.0	1
137	Recognition of Human Voice Utterances from Facial Surface EMG without Using Audio Signals. Lecture Notes in Business Information Processing, 2008, , 366-378.	0.8	1
138	Single Channel Surface Electromyogram Deconvolution is a Useful Pre-Processing for Myoelectric Control. IEEE Transactions on Biomedical Engineering, 2022, 69, 1767-1775.	2.5	1
139	Source Identification and Separation Using Global Matrix Parameters of ICA. , 2008, , .		0
140	Measure of increase in motor unit synchronisation for young and old using sEMG. , 2012, , .		0
141	Low Cost Analogue Front End for Electronic Stethoscopes Application with Silicone Enclosure. , 2019, , .		0
142	ICA as Pattern Recognition Technique for Gesture Identification. Advances in Computational Intelligence and Robotics Book Series, 2012, , 367-387.	0.4	0
143	Semi Blind Source Separation for Application in Machine Learning. , 2012, , 30-46.		0
144	Accuracy of Heart Rate estimation from DC polarised elastomer respiratory sensors. , 2019, , .		0

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145	ICA as Pattern Recognition Technique for Gesture Identification. , 0, , 530-549.		0
146	Facial Muscle Activity Patterns for Recognition of Utterances in Native and Foreign Language. , 0, , 1462-1480.		0
147	Neuroprosthetics. Advances in Bioinformatics and Biomedical Engineering Book Series, 0, , 1-7.	0.2	0