

# Varun Bajaj

## List of Publications by Year in descending order

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125  
papers

4,607  
citations

101496

36  
h-index

123376

61  
g-index

127  
all docs

127  
docs citations

127  
times ranked

3091  
citing authors

#	ARTICLE	IF	CITATIONS
1	Classification of Seizure and Nonseizure EEG Signals Using Empirical Mode Decomposition. IEEE Transactions on Information Technology in Biomedicine, 2012, 16, 1135-1142.	3.6	407
2	Analysis of normal and epileptic seizure EEG signals using empirical mode decomposition. Computer Methods and Programs in Biomedicine, 2011, 104, 373-381.	2.6	201
3	Transfer learning based histopathologic image classification for breast cancer detection. Health Information Science and Systems, 2018, 6, 18.	3.4	201
4	Automatic classification of sleep stages based on the time-frequency image of EEG signals. Computer Methods and Programs in Biomedicine, 2013, 112, 320-328.	2.6	194
5	Convolutional Neural Network Based Approach Towards Motor Imagery Tasks EEG Signals Classification. IEEE Sensors Journal, 2019, 19, 4494-4500.	2.4	139
6	Time-Frequency Representation and Convolutional Neural Network-Based Emotion Recognition. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 2901-2909.	7.2	139
7	Epileptic seizure detection based on the instantaneous area of analytic intrinsic mode functions of EEG signals. Biomedical Engineering Letters, 2013, 3, 17-21.	2.1	115
8	A Computerized Method for Automatic Detection of Schizophrenia Using EEG Signals. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 2390-2400.	2.7	109
9	Convolutional neural networks based efficient approach for classification of lung diseases. Health Information Science and Systems, 2020, 8, 4.	3.4	103
10	A multilevel color image segmentation technique based on cuckoo search algorithm and energy curve. Applied Soft Computing Journal, 2016, 47, 76-102.	4.1	100
11	An Effective Hybrid Model for EEG-Based Drowsiness Detection. IEEE Sensors Journal, 2019, 19, 7624-7631.	2.4	94
12	SPWVD-CNN for Automated Detection of Schizophrenia Patients Using EEG Signals. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-9.	2.4	90
13	An efficient method for multilevel color image thresholding using cuckoo search algorithm based on minimum cross entropy. Applied Soft Computing Journal, 2017, 61, 570-592.	4.1	80
14	Emotion recognition from single-channel EEG signals using a two-stage correlation and instantaneous frequency-based filtering method. Computer Methods and Programs in Biomedicine, 2019, 173, 157-165.	2.6	77
15	Image Segmentation Using Multilevel Thresholding: A Research Review. Iranian Journal of Science and Technology - Transactions of Electrical Engineering, 2020, 44, 1-29.	1.5	75
16	Features based on analytic IMF for classifying motor imagery EEG signals in BCI applications. Measurement: Journal of the International Measurement Confederation, 2018, 116, 68-76.	2.5	68
17	Motor imagery tasks-based EEG signals classification using tunable-Q wavelet transform. Neural Computing and Applications, 2019, 31, 6925-6932.	3.2	68
18	Adaptive Tunable $Q$ Wavelet Transform-Based Emotion Identification. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9609-9617.	2.4	62

#	ARTICLE	IF	CITATIONS
19	PDCNNet: An Automatic Framework for the Detection of Parkinson's Disease Using EEG Signals. IEEE Sensors Journal, 2021, 21, 17017-17024.	2.4	60
20	Classification of amyotrophic lateral sclerosis disease based on convolutional neural network and reinforcement sample learning algorithm. Health Information Science and Systems, 2017, 5, 9.	3.4	57
21	Exploring Hermite transformation in brain signal analysis for the detection of epileptic seizure. IET Science, Measurement and Technology, 2019, 13, 35-41.	0.9	57
22	A flexible analytic wavelet transform based approach for motor-imagery tasks classification in BCI applications. Computer Methods and Programs in Biomedicine, 2020, 187, 105325.	2.6	56
23	Analysis of ALS and normal EMG signals based on empirical mode decomposition. IET Science, Measurement and Technology, 2016, 10, 963-971.	0.9	55
24	Feature extraction method for classification of alertness and drowsiness states EEG signals. Applied Acoustics, 2020, 163, 107224.	1.7	55
25	Multi-category EEG signal classification developing time-frequency texture features based Fisher Vector encoding method. Neurocomputing, 2016, 218, 251-258.	3.5	54
26	Riemann Liouville Fractional Integral Based Empirical Mode Decomposition for ECG Denoising. IEEE Journal of Biomedical and Health Informatics, 2018, 22, 1133-1139.	3.9	52
27	An efficient method for analysis of EMG signals using improved empirical mode decomposition. AEU - International Journal of Electronics and Communications, 2017, 72, 200-209.	1.7	51
28	Impactful study of dual work function, underlap and hetero gate dielectric on TFET with different drain doping profile for high frequency performance estimation and optimization. Superlattices and Microstructures, 2016, 96, 36-46.	1.4	49
29	QRS detection using adaptive filters: A comparative study. ISA Transactions, 2017, 66, 362-375.	3.1	49
30	Surface EMG signals and deep transfer learning-based physical action classification. Neural Computing and Applications, 2019, 31, 8455-8462.	3.2	48
31	An Evolutionary Optimized Variational Mode Decomposition for Emotion Recognition. IEEE Sensors Journal, 2021, 21, 2035-2042.	2.4	47
32	Towards the classification of heart sounds based on convolutional deep neural network. Health Information Science and Systems, 2019, 7, 16.	3.4	46
33	Emotion classification using flexible analytic wavelet transform for electroencephalogram signals. Health Information Science and Systems, 2018, 6, 12.	3.4	42
34	Design of digital IIR filter: A research survey. Applied Acoustics, 2021, 172, 107669.	1.7	40
35	Drowsiness Detection Using Adaptive Hermite Decomposition and Extreme Learning Machine for Electroencephalogram Signals. IEEE Sensors Journal, 2018, 18, 8855-8862.	2.4	38
36	A hybrid method based on time-frequency images for classification of alcohol and control EEG signals. Neural Computing and Applications, 2017, 28, 3717-3723.	3.2	37

#	ARTICLE	IF	CITATIONS
37	Rhythm-based identification of alcohol EEG signals. IET Science, Measurement and Technology, 2018, 12, 343-349.	0.9	36
38	Emotion classification using EEG signals based on tunable-Q wavelet transform. IET Science, Measurement and Technology, 2019, 13, 375-380.	0.9	36
39	Human Emotion Classification from EEG Signals Using Multiwavelet Transform. , 2014, , .		33
40	Clustering Variational Mode Decomposition for Identification of Focal EEG Signals. , 2018, 2, 1-4.		33
41	Efficient method for classification of alcoholic and normal EEG signals using EMD. Journal of Engineering, 2018, 2018, 166-172.	0.6	33
42	Detection of Human Emotions Using Features Based on the Multiwavelet Transform of EEG Signals. Intelligent Systems Reference Library, 2015, , 215-240.	1.0	32
43	Computer-aided diagnosis of breast cancer using bi-dimensional empirical mode decomposition. Neural Computing and Applications, 2019, 31, 3307-3315.	3.2	32
44	EEG Signal Classification Using Empirical Mode Decomposition and Support Vector Machine. Advances in Intelligent and Soft Computing, 2012, , 623-635.	0.2	31
45	Technique for QRS complex detection using particle swarm optimisation. IET Science, Measurement and Technology, 2016, 10, 626-636.	0.9	31
46	Hybrid Computerized Method for Environmental Sound Classification. IEEE Access, 2020, 8, 124055-124065.	2.6	31
47	Design of Bandpass and Bandstop Infinite Impulse Response Filters Using Fractional Derivative. IEEE Transactions on Industrial Electronics, 2019, 66, 1285-1295.	5.2	30
48	Sleep Apnea Detection Using Artificial Bee Colony Optimize Hermite Basis Functions for EEG Signals. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 608-616.	2.4	30
49	Environmental sound classification using optimum allocation sampling based empirical mode decomposition. Physica A: Statistical Mechanics and Its Applications, 2020, 537, 122613.	1.2	30
50	Classification of emotions from EEG signals using time-order representation based on the S-transform and convolutional neural network. Electronics Letters, 2020, 56, 1359-1361.	0.5	30
51	A hybrid decision support system for automatic detection of Schizophrenia using EEG signals. Computers in Biology and Medicine, 2022, 141, 105028.	3.9	29
52	Tunable Q wavelet transform based emotion classification in Parkinson's disease using Electroencephalography. PLoS ONE, 2020, 15, e0242014.	1.1	28
53	An Advanced Analysis System for Identifying Alcoholic Brain State Through EEG Signals. International Journal of Automation and Computing, 2019, 16, 737-747.	4.5	27
54	Automatic sleep stages classification using optimize flexible analytic wavelet transform. Knowledge-Based Systems, 2020, 192, 105367.	4.0	27

#	ARTICLE	IF	CITATIONS
55	A facile and flexible motor imagery classification using electroencephalogram signals. <i>Computer Methods and Programs in Biomedicine</i> , 2020, 197, 105722.	2.6	27
56	Flexible Analytic Wavelet Transform Based Features for Physical Action Identification Using sEMG Signals. <i>Irbm</i> , 2020, 41, 18-22.	3.7	26
57	Entropy-Based Drowsiness Detection Using Adaptive Variational Mode Decomposition. <i>IEEE Sensors Journal</i> , 2021, 21, 6421-6428.	2.4	26
58	Backtracking search algorithm for color image multilevel thresholding. <i>Signal, Image and Video Processing</i> , 2018, 12, 385-392.	1.7	25
59	Constrained based tunable Q wavelet transform for efficient decomposition of EEG signals. <i>Applied Acoustics</i> , 2020, 163, 107234.	1.7	25
60	Separation of Rhythms of EEG Signals Based on Hilbert-Huang Transformation with Application to Seizure Detection. <i>Lecture Notes in Computer Science</i> , 2012, , 493-500.	1.0	24
61	Time-frequency image based features for classification of epileptic seizures from EEG signals. <i>Biomedical Physics and Engineering Express</i> , 2017, 3, 015012.	0.6	24
62	A new technique for guided filter based image denoising using modified cuckoo search optimization. <i>Expert Systems With Applications</i> , 2021, 176, 114884.	4.4	24
63	Classification of schizophrenia patients through empirical wavelet transformation using electroencephalogram signals. , 0, , 1-1-1-26.		24
64	Efficient algorithm for classification of electrocardiogram beats based on artificial bee colony based least squares support vector machines classifier. <i>Electronics Letters</i> , 2016, 52, 1198-1200.	0.5	23
65	Robust Hermite decomposition algorithm for classification of sleep apnea EEG signals. <i>Electronics Letters</i> , 2017, 53, 1182-1184.	0.5	23
66	A New Design Method for Stable IIR Filters With Nearly Linear-Phase Response Based on Fractional Derivative and Swarm Intelligence. <i>IEEE Transactions on Emerging Topics in Computational Intelligence</i> , 2017, 1, 464-477.	3.4	23
67	Design of digital IIR filter with low quantization error using hybrid optimization technique. <i>Soft Computing</i> , 2018, 22, 2953-2971.	2.1	22
68	An optimum allocation sampling based feature extraction scheme for distinguishing seizure and seizure-free EEG signals. <i>Health Information Science and Systems</i> , 2017, 5, 7.	3.4	21
69	Rhythm based features for classification of focal and non focal EEG signals. <i>IET Signal Processing</i> , 2017, 11, 743-748.	0.9	21
70	A New Method for Designing of Stable Digital IIR Filter Using Hybrid Method. <i>Circuits, Systems, and Signal Processing</i> , 2019, 38, 2187-2226.	1.2	20
71	A context sensitive multilevel thresholding using swarm based algorithms. <i>IEEE/CAA Journal of Automatica Sinica</i> , 2019, 6, 1471-1486.	8.5	19
72	Features based on intrinsic mode functions for classification of EMG signals. <i>International Journal of Biomedical Engineering and Technology</i> , 2015, 18, 156.	0.2	18

#	ARTICLE	IF	CITATIONS
73	Improving the separability of drowsiness and alert EEG signals using analytic form of wavelet transform. Applied Acoustics, 2021, 181, 108164.	1.7	18
74	Features based on variational mode decomposition for identification of neuromuscular disorder using EMG signals. Health Information Science and Systems, 2018, 6, 13.	3.4	17
75	Classification of normal, ALS, and myopathy EMG signals using ELM classifier. , 2016, , .		16
76	Performance investigation of hetero material (InAs/Si)-based charge plasma TFET. Micro and Nano Letters, 2017, 12, 358-363.	0.6	14
77	High order stable infinite impulse response filter design using cuckoo search algorithm. International Journal of Automation and Computing, 2017, 14, 589-602.	4.5	14
78	An Improved Fuzzy Min-Max Neural Network for Data Classification. IEEE Transactions on Fuzzy Systems, 2020, 28, 1910-1924.	6.5	14
79	Automated Cognitive Workload Assessment Using Logical Teaching Learning-Based Optimization and PROMETHEE Multi-Criteria Decision Making Approach. IEEE Sensors Journal, 2020, 20, 13629-13637.	2.4	14
80	Optimized Tunable Q Wavelet Transform Based Drowsiness Detection from Electroencephalogram Signals. Irbm, 2022, 43, 13-21.	3.7	14
81	DeepEMGNet: An Application for Efficient Discrimination of ALS and Normal EMG Signals. Advances in Intelligent Systems and Computing, 2018, , 619-625.	0.5	13
82	Design of Infinite Impulse Response Filter Using Fractional Derivative Constraints and Hybrid Particle Swarm Optimization. Circuits, Systems, and Signal Processing, 2020, 39, 6162-6190.	1.2	13
83	OSACN-Net: Automated Classification of Sleep Apnea Using Deep Learning Model and Smoothed Gabor Spectrograms of ECG Signal. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	2.4	13
84	Features extraction for classification of focal and non-focal EEG signals. Lecture Notes in Electrical Engineering, 2015, , 599-605.	0.3	12
85	Effective de-noising of ECG by optimised adaptive thresholding on noisy modes. IET Science, Measurement and Technology, 2018, 12, 640-644.	0.9	12
86	Novel feature for identification of focal EEG signals with k-Means and fuzzy c-means algorithms. , 2015, , .		11
87	Dual workfunction hetero gate dielectric tunnel field-effect transistor performance analysis. , 2016, , .		11
88	A novel pectoral muscle segmentation from scanned mammograms using EMO algorithm. Biomedical Engineering Letters, 2019, 9, 481-496.	2.1	11
89	Robust Approach Based on Convolutional Neural Networks for Identification of Focal EEG Signals. , 2019, 3, 1-4.		11
90	An Improved Deep Learning Model for Automated Detection of BBB Using S-T Spectrograms of Smoothed VCG Signal. IEEE Sensors Journal, 2022, 22, 8830-8837.	2.4	11

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91	Temperature based performance analysis of doping-less tunnel field effect transistor. , 2017, , .		10
92	An efficient approach for physical actions classification using surface EMG signals. Health Information Science and Systems, 2020, 8, 3.	3.4	10
93	A new design approach for nearly linear phase stable IIR filter using fractional derivative. IEEE/CAA Journal of Automatica Sinica, 2020, 7, 527-538.	8.5	10
94	Classification of epileptic EEG signals using sparse spectrum based empirical wavelet transform. Electronics Letters, 2020, 56, 1370-1372.	0.5	10
95	Physical Actions Classification of Surface EMG Signals Using VMD. , 2018, , .		9
96	HHT Based Features for Discrimination of EMG Signals. Advances in Intelligent Systems and Computing, 2015, , 95-103.	0.5	8
97	Discrimination between Myopathy and normal EMG signals using intrinsic mode functions. , 2016, , .		8
98	Efficient approach for digitization of the cardiocography signals. Physica A: Statistical Mechanics and Its Applications, 2020, 537, 122725.	1.2	8
99	Automatic drowsiness detection based on variational non-linear chirp mode decomposition using electroencephalogram signals. , 0, , 5-1-5-25.		8
100	Optimized design of digital IIR filter using artificial bee colony algorithm. , 2015, , .		7
101	Hybrid method based optimized design of digital IIR filter. , 2015, , .		7
102	TEO separated AM-FM components for identification of apnea EEG signals. , 2017, , .		7
103	A systematic investigation of the integrated effects of gate underlapping, dual work functionality and hetero gate dielectric for improved performance of CP TFETs. Journal of Computational Electronics, 2018, 17, 118-128.	1.3	7
104	Fractional-Order Darwinian Swarm Intelligence Inspired Multilevel Thresholding for Mammogram Segmentation. , 2018, , .		7
105	Bidimensional Empirical Mode Decomposition-Based Diffusion Filtering for Image Denoising. Circuits, Systems, and Signal Processing, 2020, 39, 5127-5147.	1.2	7
106	Hilbert-Huang transform based classification of sleep and wake EEG signals using fuzzy c-means algorithm. , 2015, , .		6
107	Digital IIR filter design with controlled ripple using cuckoo search algorithm. , 2016, , .		5
108	Controlled ripple based design of digital IIR filter. , 2016, , .		5

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109	Drowsiness Detection using Instantaneous Frequency based Rhythms Separation for EEG Signals. , 2018, , .		5
110	Classification of mental states from rational dilation wavelet transform and bagged tree classifier using EEG signals. , 2022, , 217-235.		5
111	A new design approach for enhancement of DC/RF characteristics with improved ambipolar conduction of charge plasma TFET: proposal, and optimization. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	1.1	4
112	McCullochâ€™s algorithm inspired cuckoo search optimizer based mammographic image segmentation. Multimedia Tools and Applications, 2020, 79, 30453-30488.	2.6	4
113	Analysis of focal and non-focal EEG signals using bivariate empirical mode decomposition. , 2016, , .		3
114	Real-time detection of electrocardiograph peaks: A genetic algorithm based approach. , 2017, , .		3
115	QRS complex detection using cuckoo search optimization algorithm. , 2017, , .		1
116	An EMD based approach for discrimination of apnea and normal EEG signals. , 2017, , .		1
117	Bidimensional Empirical Mode Decomposition based Intrinsically Augmented Gamma Correction for Quality Restoration of Textural Images. , 2018, , .		1
118	K-highest Fuzzy Min-Max Network to Classify Histopathological Images. , 2019, , .		1
119	A Fuzzy Min-Max Neural Network based Classification of Histopathology Images. , 2019, , .		1
120	Automatic Environment Sounds Classification Using Optimum Allocation Sampling. , 2019, , .		1
121	Time Frequency Image based features for detection of focal EEG signals. , 2016, , .		0
122	Discrimination of alcohol and normal EEG signal using EMD. , 2017, , .		0
123	Phase Optimization based Design of Infinite Impulse Response Filter using Fractional Derivative. , 2018, , .		0
124	Histopathology Image Classification using Enhanced Fuzzy Min-Max network. , 2020, , .		0
125	Guest Editorial: Current Trends in Cognitive Science and Brain Computing Research and Applications. Electronics Letters, 2020, 56, 1354-1355.	0.5	0