

# Ashish Ghosh

## List of Publications by Year in descending order

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155  
papers

3,874  
citations

136950

32  
h-index

149698

56  
g-index

159  
all docs

159  
docs citations

159  
times ranked

3180  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fuzzy clustering algorithms for unsupervised change detection in remote sensing images. Information Sciences, 2011, 181, 699-715.	6.9	269
2	Genetic algorithms with a robust solution searching scheme. IEEE Transactions on Evolutionary Computation, 1997, 1, 201-208.	10.0	225
3	Multi-objective rule mining using genetic algorithms. Information Sciences, 2004, 163, 123-133.	6.9	184
4	Artificial intelligence in Internet of things. CAAI Transactions on Intelligence Technology, 2018, 3, 208-218.	8.1	172
5	Self-adaptive differential evolution for feature selection in hyperspectral image data. Applied Soft Computing Journal, 2013, 13, 1969-1977.	7.2	125
6	A Context-Sensitive Technique for Unsupervised Change Detection Based on Hopfield-Type Neural Networks. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 778-789.	6.3	121
7	An improved swarm optimized functional link artificial neural network (ISO-FLANN) for classification. Journal of Systems and Software, 2012, 85, 1333-1345.	4.5	121
8	Gray-level Image Enhancement By Particle Swarm Optimization. , 2009, , .		109
9	Forking Genetic Algorithms: GAs with Search Space Division Schemes. Evolutionary Computation, 1997, 5, 61-80.	3.0	97
10	Nonâ€parametric modified histogram equalisation for contrast enhancement. IET Image Processing, 2013, 7, 641-652.	2.5	80
11	Integration of deep feature extraction and ensemble learning for outlier detection. Pattern Recognition, 2019, 89, 161-171.	8.1	76
12	Fuzzy clustering algorithms incorporating local information for change detection in remotely sensed images. Applied Soft Computing Journal, 2012, 12, 2683-2692.	7.2	74
13	Fuzzy geometry in image analysis. Fuzzy Sets and Systems, 1992, 48, 23-40.	2.7	72
14	Application of elitist multi-objective genetic algorithm for classification rule generation. Applied Soft Computing Journal, 2008, 8, 477-487.	7.2	72
15	Integration of Gibbs Markov Random Field and Hopfield-Type Neural Networks for Unsupervised Change Detection in Remotely Sensed Multitemporal Images. IEEE Transactions on Image Processing, 2013, 22, 3087-3096.	9.8	69
16	Histogram thresholding for unsupervised change detection of remote sensing images. International Journal of Remote Sensing, 2011, 32, 6071-6089.	2.9	68
17	Combination of Clustering and Ranking Techniques for Unsupervised Band Selection of Hyperspectral Images. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2015, 8, 2814-2823.	4.9	66
18	Fast mean filtering technique (FMFT). Pattern Recognition, 2007, 40, 890-897.	8.1	62

#	ARTICLE	IF	CITATIONS
19	A novel approach for change detection of remotely sensed images using semi-supervised multiple classifier system. Information Sciences, 2014, 269, 35-47.	6.9	60
20	A novel approach to neuro-fuzzy classification. Neural Networks, 2009, 22, 100-109.	5.9	58
21	Index of area coverage of fuzzy image subsets and object extraction. Pattern Recognition Letters, 1990, 11, 831-841.	4.2	57
22	Aggregation pheromone density based data clustering. Information Sciences, 2008, 178, 2816-2831.	6.9	56
23	Semi-supervised change detection using modified self-organizing feature map neural network. Applied Soft Computing Journal, 2014, 15, 1-20.	7.2	56
24	Wavelet-Feature-Based Classifiers for Multispectral Remote-Sensing Images. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1881-1886.	6.3	47
25	Robust global and local fuzzy energy based active contour for image segmentation. Applied Soft Computing Journal, 2016, 47, 191-215.	7.2	46
26	A Change Information Based Fast Algorithm for Video Object Detection and Tracking. IEEE Transactions on Circuits and Systems for Video Technology, 2011, 21, 993-1004.	8.3	40
27	Image segmentation using fuzzy correlation. Information Sciences, 1992, 62, 223-250.	6.9	39
28	Use of fuzziness measures in layered networks for object extraction: a generalization. Fuzzy Sets and Systems, 1995, 72, 331-348.	2.7	39
29	Supervised and unsupervised landuse map generation from remotely sensed images using ant based systems. Applied Soft Computing Journal, 2011, 11, 5770-5781.	7.2	39
30	Multi-label classification using a cascade of stacked autoencoder and extreme learning machines. Neurocomputing, 2019, 358, 222-234.	5.9	38
31	Image segmentation using a neural network. Biological Cybernetics, 1991, 66, 151-158.	1.3	37
32	Hue-preserving color image enhancement using particle swarm optimization. , 2011, , .		37
33	Object Detection From Videos Captured by Moving Camera by Fuzzy Edge Incorporated Markov Random Field and Local Histogram Matching. IEEE Transactions on Circuits and Systems for Video Technology, 2012, 22, 1127-1135.	8.3	37
34	Big data analytics for video surveillance. Multimedia Tools and Applications, 2019, 78, 26129-26162.	3.9	37
35	Spatio-contextual fuzzy clustering with Markov random field model for change detection in remotely sensed images. Optics and Laser Technology, 2014, 57, 284-292.	4.6	36
36	An unsupervised context-sensitive change detection technique based on modified self-organizing feature map neural network. International Journal of Approximate Reasoning, 2009, 50, 37-50.	3.3	35

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37	Band elimination of hyperspectral imagery using partitioned band image correlation and capacity discrimination. International Journal of Remote Sensing, 2014, 35, 554-577.	2.9	35
38	A novel fuzzy classifier based on product aggregation operator. Pattern Recognition, 2008, 41, 961-971.	8.1	33
39	OBJECT BACKGROUND CLASSIFICATION USING HOPFIELD TYPE NEURAL NETWORK. International Journal of Pattern Recognition and Artificial Intelligence, 1992, 06, 989-1008.	1.2	28
40	Unsupervised band extraction for hyperspectral images using clustering and kernel principal component analysis. International Journal of Remote Sensing, 2017, 38, 850-873.	2.9	28
41	Neural network, self-organization and object extraction. Pattern Recognition Letters, 1992, 13, 387-397.	4.2	27
42	Designing Hopfield Type Networks Using Genetic Algorithms and Its Comparison with Simulated Annealing. International Journal of Pattern Recognition and Artificial Intelligence, 1997, 11, 447-461.	1.2	26
43	Wavelet-fuzzy hybridization: Feature-extraction and land-cover classification of remote sensing images. Applied Soft Computing Journal, 2011, 11, 2999-3011.	7.2	26
44	Change detection for moving object segmentation with robust background construction under Wronskian framework. Machine Vision and Applications, 2013, 24, 795-809.	2.7	26
45	Statistical feature bag based background subtraction for local change detection. Information Sciences, 2016, 366, 31-47.	6.9	25
46	Review Neuro-fuzzy computing for image processing and pattern recognition. International Journal of Systems Science, 1996, 27, 1179-1193.	5.5	23
47	Tumor or abnormality identification from magnetic resonance images using statistical region fusion based segmentation. Magnetic Resonance Imaging, 2016, 34, 1292-1304.	1.8	23
48	Supervised Feature Extraction of Hyperspectral Images Using Partitioned Maximum Margin Criterion. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 82-86.	3.1	23
49	A Survey on Fuzzy Association Rule Mining. International Journal of Data Warehousing and Mining, 2013, 9, 1-27.	0.6	22
50	PCA, Kernel PCA and Dimensionality Reduction in Hyperspectral Images. , 2018, , 19-46.		22
51	Neuro-fuzzy-combiner: an effective multiple classifier system. International Journal of Knowledge Engineering and Soft Data Paradigms, 2010, 2, 107.	0.0	21
52	Partially Camouflaged Object Tracking using Modified Probabilistic Neural Network and Fuzzy Energy based Active Contour. International Journal of Computer Vision, 2017, 122, 116-148.	15.6	20
53	Protein secondary structure prediction using distance based classifiers. International Journal of Approximate Reasoning, 2008, 47, 37-44.	3.3	19
54	Genotypic and phenotypic assortative mating in genetic algorithm. Information Sciences, 1998, 105, 209-226.	6.9	18

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55	Use of aggregation pheromone density for image segmentation. Pattern Recognition Letters, 2009, 30, 939-949.	4.2	18
56	Entropy based region selection for moving object detection. Pattern Recognition Letters, 2011, 32, 2097-2108.	4.2	18
57	FUMET: A fuzzy network module extraction technique for gene expression data. Journal of Biosciences, 2014, 39, 351-364.	1.1	18
58	Real-Time Adaptive Histogram Min-Max Bucket (HMMB) Model for Background Subtraction. IEEE Transactions on Circuits and Systems for Video Technology, 2018, 28, 1513-1525.	8.3	18
59	Aggregation pheromone metaphor for semi-supervised classification. Pattern Recognition, 2013, 46, 2239-2248.	8.1	17
60	Land-Cover Classification of Remotely Sensed Images Using Compressive Sensing Having Severe Scarcity of Labeled Patterns. IEEE Geoscience and Remote Sensing Letters, 2015, 12, 1257-1261.	3.1	17
61	A Neural Approach Under Active Learning Mode for Change Detection in Remotely Sensed Images. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2014, 7, 1200-1206.	4.9	16
62	A condensed polynomial neural network for classification using swarm intelligence. Applied Soft Computing Journal, 2011, 11, 3106-3113.	7.2	14
63	Ensemble of Multilayer Perceptrons for Change Detection in Remotely Sensed Images. IEEE Geoscience and Remote Sensing Letters, 2014, 11, 49-53.	3.1	14
64	Image co-segmentation using dual active contours. Applied Soft Computing Journal, 2018, 66, 413-427.	7.2	14
65	Soft computing data mining. Information Sciences, 2004, 163, 1-3.	6.9	13
66	Moving object detection using Markov Random Field and Distributed Differential Evolution. Applied Soft Computing Journal, 2014, 15, 121-136.	7.2	13
67	Moving object detection using spatio-temporal multilayer compound Markov Random Field and histogram thresholding based change detection. Multimedia Tools and Applications, 2017, 76, 13511-13543.	3.9	13
68	Surrogate-Assisted Multi-objective Genetic Algorithms for Fuzzy Rule-Based Classification. International Journal of Fuzzy Systems, 2018, 20, 1938-1955.	4.0	13
69	Multi-Label Classification Using Binary Tree of Classifiers. IEEE Transactions on Emerging Topics in Computational Intelligence, 2022, 6, 677-689.	4.9	13
70	A Comparative Study of Clustering Algorithms. Information Technology Journal, 2006, 5, 551-559.	0.3	13
71	NEURO-WAVELET CLASSIFIER FOR MULTISPECTRAL REMOTE SENSING IMAGES. International Journal of Wavelets, Multiresolution and Information Processing, 2007, 05, 589-611.	1.3	12
72	Scaled and oriented object tracking using ensemble of multilayer perceptrons. Applied Soft Computing Journal, 2018, 73, 1081-1094.	7.2	12

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73	Performance of Aggregation Pheromone System on Unimodal and Multimodal Problems. , 0, , .		11
74	Unsupervised Change Detection in Remote-Sensing Images Using Modified Self-Organizing Feature Map Neural Network. , 2007, , .		11
75	Foreground Segmentation Using Adaptive 3 Phase Background Model. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 2287-2296.	8.0	11
76	Trigger Detection System for American Sign Language using Deep Convolutional Neural Networks. , 2018, , .		10
77	Application of Gibbs's Markov random field and Hopfield-type neural networks for detecting moving objects from video sequences captured by static camera. Soft Computing, 2015, 19, 2769-2781.	3.6	9
78	Integration of fuzzy Markov random field and local information for separation of moving objects and shadows. Information Sciences, 2016, 331, 15-31.	6.9	9
79	Efficient silhouette-based contour tracking using local information. Soft Computing, 2016, 20, 785-805.	3.6	9
80	Clustering based band selection for hyperspectral images. , 2012, , .		8
81	Revisiting evolutionary algorithms in feature selection and nonfuzzy/fuzzy rule based classification. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 2013, 3, 83-108.	6.8	8
82	Ant Based Semi-supervised Classification. Lecture Notes in Computer Science, 2010, , 376-383.	1.3	8
83	Neuro-Fuzzy Fusion: A New Approach to Multiple Classifier System. , 2006, , .		7
84	Clinical ultrasound image standardization using histogram specification. Computers in Biology and Medicine, 2020, 120, 103746.	7.0	7
85	Aggregation Pheromone Density Based Change Detection in Remotely Sensed Images. , 2006, , .		7
86	Semi-supervised Learning with Multilayer Perceptron for Detecting Changes of Remote Sensing Images. , 2007, , 161-168.		7
87	Particles with Age for Data Clustering. , 2006, , .		6
88	Parallel Multi-objective Genetic Algorithm for Classification Rule Mining. IETE Journal of Research, 2007, 53, 475-483.	2.6	6
89	Kernelized Fuzzy Modal Variation for Local Change Detection From Video Scenes. IEEE Transactions on Multimedia, 2020, 22, 912-920.	7.2	6
90	Incorporating Ancestors' Influence in Genetic Algorithms. Applied Intelligence, 2003, 18, 7-25.	5.3	5

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91	Evolutionary Algorithms for Data Mining and Knowledge Discovery. , 2005, , 1-20.		5
92	Wasp: A Multi-agent System for Multiple Recommendations Problem. , 2008, , .		5
93	Unsupervised Change Detection of Remotely Sensed Images Using Fuzzy Clustering. , 2009, , .		5
94	Moving object detection using Gaussian background model and Wronskian framework. , 2013, , .		5
95	Maximum Margin Criterion Based Band Extraction of Hyperspectral Imagery. , 2014, , .		5
96	Edge Preserving Region Growing for Aerial Color Image Segmentation. Advances in Intelligent Systems and Computing, 2015, , 481-488.	0.6	5
97	Speckle de-noising of clinical ultrasound images based on fuzzy spel conformity in its adjacency. Applied Soft Computing Journal, 2018, 73, 394-417.	7.2	5
98	Genetic Algorithm for Optimization of Multiple Objectives in Knowledge Discovery from Large Databases. Studies in Computational Intelligence, 2008, , 1-22.	0.9	5
99	On Making Neural Network Based Learning Systems Robust. IETE Journal of Research, 1998, 44, 219-225.	2.6	4
100	Unsupervised Change Detection in Remote-Sensing Images using One-dimensional Self-Organizing Feature Map Neural Network. , 2006, , .		4
101	Context Dependent Fuzzy Associated Statistical Model for Intensity Inhomogeneity Correction From Magnetic Resonance Images. IEEE Journal of Translational Engineering in Health and Medicine, 2019, 7, 1-9.	3.7	4
102	Aggregation Pheromone Density Based Clustering. , 2006, , .		3
103	Object and shadow separation using fuzzy Markov Random Field and local gray level co-occurrence matrix based textural features. , 2012, , .		3
104	Band elimination of hyperspectral imagery using correlation of partitioned band images. , 2013, , .		3
105	Prototypes based discriminative appearance model for object tracking. , 2016, , .		3
106	On the mining of fuzzy association rule using multi-objective genetic algorithms. International Journal of Data Mining, Modelling and Management, 2016, 8, 1.	0.1	3
107	Robust image segmentation using global and local fuzzy energy based active contour. , 2016, , .		3
108	Moments discriminant analysis for supervised dimensionality reduction. Neurocomputing, 2017, 237, 114-132.	5.9	3

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109	Real-time record sensitive background classifier (RSBC). Expert Systems With Applications, 2019, 119, 104-117.	7.6	3
110	Learning from Others: A Data Driven Transfer Learning based Daily New COVID-19 Case Prediction in India using an Ensemble of LSTM-RNNs. , 2021, , .		3
111	Aggregation Pheromone Density Based Image Segmentation. Lecture Notes in Computer Science, 2006, , 118-127.	1.3	3
112	Multispectral Remote Sensing Image Classification Using Wavelet Based Features. , 2007, , 3-34.		3
113	Band Elimination for Dimensionality Reduction of Hyperspectral Images using Mutual Information. , 2020, , .		3
114	Detection of Earth Surface Cracks Using Parallel Genetic Algorithm Based Thresholding. , 2009, , .		2
115	Ant based supervised and unsupervised land use map generation from remotely sensed images. , 2009, , .		2
116	Search-based semi-supervised clustering algorithms for change detection in remotely sensed images. , 2012, , .		2
117	Efficient silhouette based contour tracking. , 2013, , .		2
118	Change detection in remotely sensed images using semi-supervised clustering algorithms. International Journal of Knowledge Engineering and Soft Data Paradigms, 2013, 4, 118.	0.0	2
119	A comparative study of local binary pattern descriptors and Gabor Filter for electron microscopy image segmentation. , 2014, , .		2
120	Data clustering: review and investigation of parallel genetic algorithms for revealing clusters. International Journal of Applied Management Science, 2014, 6, 212.	0.2	2
121	Noisy-free Length Discriminant Analysis with cosine hyperbolic framework for dimensionality reduction. Expert Systems With Applications, 2017, 81, 88-107.	7.6	2
122	Norm Discriminant Eigenspace Transform for Pattern Classification. IEEE Transactions on Cybernetics, 2019, 49, 273-286.	9.5	2
123	Implementation of Boolean AND and OR Logic Gates with Biologically Reasonable Time Constants in Spiking Neural Networks. Proceedings of the AAAI Conference on Artificial Intelligence, 2019, 33, 10021-10022.	4.9	2
124	Hyperspectral Remote Sensing Images and Supervised Feature Extraction. Studies in Big Data, 2019, , 265-289.	1.1	2
125	A Neural Approach to Unsupervised Change Detection of Remote-Sensing Images. Studies in Computational Intelligence, 2008, , 243-268.	0.9	2
126	Soft Computing and Image Analysis: Features, Relevance and Hybridization. Studies in Fuzziness and Soft Computing, 2000, , 1-20.	0.8	2



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127	Neuro-Wavelet Classifier for Remote Sensing Image Classification. , 2007, , .		1
128	Aggregation Pheromone Density Based Classification. , 2008, , .		1
129	Distributed differential evolution algorithm for MAP estimation of MRF model for detecting moving objects. , 2011, , .		1
130	Enhanced eigenspace separation transform for classification. , 2012, , .		1
131	Semi-supervised Hopfield-Type Neural Network for change detection in remotely sensed images. , 2012, , .		1
132	A semi-supervised change detection for remotely sensed images using ensemble classifier. , 2012, , .		1
133	Combination of fuzzy clustering algorithms for change detection in remote sensing images. , 2012, , .		1
134	Rule induction based object tracking. , 2014, , .		1
135	MIPCE: An MI-based protein complex extraction technique. Journal of Biosciences, 2015, 40, 701-708.	1.1	1
136	Moving Object Detection using Multi-layer Markov Random Field Model. , 2017, , 687-711.		1
137	Functional Link Artificial Neural Network for Multi-label Classification. Lecture Notes in Computer Science, 2017, , 1-10.	1.3	1
138	A GA-FUZZY Approach to Evolve Hopfield Type Optimum Networks for Object Extraction. Lecture Notes in Computer Science, 2002, , 444-449.	1.3	1
139	A Discrete Particle Swarm for Multi-objective Problems in Polynomial Neural Networks used for Classification: A Data Mining Perspective. Studies in Computational Intelligence, 2009, , 115-155.	0.9	1
140	Moving Objects Detection from Video Sequences Using Fuzzy Edge Incorporated Markov Random Field Modeling and Local Histogram Matching. Lecture Notes in Computer Science, 2011, , 173-179.	1.3	1
141	A Subspace Module Extraction Technique for Gene Expression Data. Lecture Notes in Computer Science, 2013, , 635-640.	1.3	1
142	A Study on Nonlinear Classifier-Based Moving Object Tracking. Advances in Intelligent Systems and Computing, 2015, , 571-578.	0.6	1
143	Salient Object Detection based on Bayesian Surprise of Restricted Boltzmann Machine. , 2018, , .		1
144	Neural Computing: An Introduction and Some Applications. IETE Journal of Education Online, 1994, 35, 105-125.	0.6	0

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145	A Fast and Efficient Clutter Rejection Algorithm for SAR Imagery. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 2431-2439.	4.7	0
146	Spatial constraint Hopfield-type neural networks for detecting changes in remotely sensed multitemporal images. , 2013, , .		0
147	PDComp. , 2016, , .		0
148	Maximum Class Boundary Criterion for supervised dimensionality reduction. , 2016, , .		0
149	Despeckling with Structure Preservation in Clinical Ultrasound Images Using Historical Edge Information Weighted Regularizer. Lecture Notes in Computer Science, 2017, , 144-155.	1.3	0
150	Activities of IEEE GRSS Kolkata Chapter [Chapters]. IEEE Geoscience and Remote Sensing Magazine, 2020, 8, 160-165.	9.6	0
151	Neuro-Genetic Approach for Detecting Changes in Multitemporal Remotely Sensed Images. Lecture Notes in Computer Science, 2011, , 318-323.	1.3	0
152	Scalable Fuzzy Genetic Classifier Based on Fitness Approximation. Lecture Notes in Computer Science, 2012, , 492-499.	1.3	0
153	Multi-Objective Genetic and Fuzzy Approaches in Rule Mining Problem of Knowledge Discovery in Databases. Advances in Computational Intelligence and Robotics Book Series, 2014, , 147-179.	0.4	0
154	Multi-Objective Genetic and Fuzzy Approaches in Rule Mining Problem of Knowledge Discovery in Databases. , 0, , 1083-1114.		0
155	Noisy multimodal brain image registration using markov random field model. Biomedical Signal Processing and Control, 2022, 73, 103426.	5.7	0