Friedhelm Schwenker

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Three learning phases for radial-basis-function networks. Neural Networks, 2001, 14, 439-458.	5.9	437
2	Pattern classification and clustering: A review of partially supervised learning approaches. Pattern Recognition Letters, 2014, 37, 4-14.	4.2	184
3	Survey of deep learning in breast cancer image analysis. Evolving Systems, 2020, 11, 143-163.	3.9	106
4	A dataset of continuous affect annotations and physiological signals for emotion analysis. Scientific Data, 2019, 6, 196.	5.3	79
5	Multiple Classifier Systems for the Classification of Audio-Visual Emotional States. Lecture Notes in Computer Science, 2011, , 359-368.	1.3	65
6	A Survey of Brain Tumor Segmentation and Classification Algorithms. Journal of Imaging, 2021, 7, 179.	3.0	64
7	Methods for Person-Centered Continuous Pain Intensity Assessment From Bio-Physiological Channels. IEEE Journal on Selected Topics in Signal Processing, 2016, 10, 854-864.	10.8	63
8	Investigating fuzzy-input fuzzy-output support vector machines for robust voice quality classification. Computer Speech and Language, 2013, 27, 263-287.	4.3	60
9	Adaptive confidence learning for the personalization of pain intensity estimation systems. Evolving Systems, 2017, 8, 71-83.	3.9	56
10	Enhanced Region Growing for Brain Tumor MR Image Segmentation. Journal of Imaging, 2021, 7, 22.	3.0	53
11	Multi-Modal Pain Intensity Recognition Based on the <i>SenseEmotion</i> Database. IEEE Transactions on Affective Computing, 2021, 12, 743-760.	8.3	50
12	Combining Committee-Based Semi-Supervised Learning and Active Learning. Journal of Computer Science and Technology, 2010, 25, 681-698.	1.5	49
13	Emotion recognition from speech signals via a probabilistic echo-state network. Pattern Recognition Letters, 2015, 66, 4-12.	4.2	47
14	Evaluation of modified adaptive k-means segmentation algorithm. Computational Visual Media, 2019, 5, 347-361.	17.5	42
15	Deep Learning in Selected Cancers' Image Analysis—A Survey. Journal of Imaging, 2020, 6, 121.	3.0	42
16	Multimodal Emotion Classification in Naturalistic User Behavior. Lecture Notes in Computer Science, 2011, , 603-611.	1.3	40
17	Multimodal Data Fusion for Person-Independent, Continuous Estimation of Pain Intensity. Communications in Computer and Information Science, 2015, , 275-285.	0.5	40
18	Exploring Deep Physiological Models for Nociceptive Pain Recognition. Sensors, 2019, 19, 4503.	3.8	39

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19	Bio-Visual Fusion for Person-Independent Recognition of Pain Intensity. Lecture Notes in Computer Science, 2015, , 220-230.	1.3	39
20	Semi-supervised Learning. Intelligent Systems Reference Library, 2013, , 215-239.	1.2	39
21	Spotting laughter in natural multiparty conversations. ACM Transactions on Interactive Intelligent Systems, 2012, 2, 1-31.	3.7	37
22	A generic framework for the inference of user states in human computer interaction. Journal on Multimodal User Interfaces, 2012, 6, 117-141.	2.9	36
23	Semi-supervised learning for tree-structured ensembles of RBF networks with Co-Training. Neural Networks, 2010, 23, 497-509.	5.9	34
24	Prediction of COVID-19 from Chest CT Images Using an Ensemble of Deep Learning Models. Applied Sciences (Switzerland), 2021, 11, 7004.	2.5	34
25	Decision templates for the classification of bioacoustic time series. Information Fusion, 2003, 4, 101-109.	19.1	33
26	Inferring Depression and Affect from Application Dependent Meta Knowledge. , 2014, , .		32
27	Fusion paradigms in cognitive technical systems for human–computer interaction. Neurocomputing, 2015, 161, 17-37.	5.9	31
28	The SenseEmotion Database: A Multimodal Database for the Development and Systematic Validation of an Automatic Pain- and Emotion-Recognition System. Lecture Notes in Computer Science, 2017, , 127-139.	1.3	30
29	Ensemble Gaussian mixture models for probability density estimation. Computational Statistics, 2013, 28, 127-138.	1.5	29
30	Neural Network Ensembles in Reinforcement Learning. Neural Processing Letters, 2015, 41, 55-69.	3.2	29
31	Classification of bioacoustic time series based on the combination of global and local decisions. Pattern Recognition, 2004, 37, 2293-2305.	8.1	28
32	Classification of Mammograms Using Texture and CNN Based Extracted Features. Journal of Biomimetics, Biomaterials and Biomedical Engineering, 0, 42, 79-97.	0.5	28
33	Classifier Fusion for Emotion Recognition from Speech. , 2009, , 95-117.		26
34	Using unlabeled data to improve classification of emotional states in human computer interaction. Journal on Multimodal User Interfaces, 2014, 8, 5-16.	2.9	25
35	Two-Stream Attention Network for Pain Recognition from Video Sequences. Sensors, 2020, 20, 839.	3.8	25

36 Ship classification based on trajectory data with machine-learning methods. , 2018, , .

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37	Real-Time Emotion Recognition from Speech Using Echo State Networks. Lecture Notes in Computer Science, 2008, , 205-216.	1.3	24
38	Fuzzy-Input Fuzzy-Output One-Against-All Support Vector Machines. , 2007, , 156-165.		23
39	Ensemble Methods for Continuous Affect Recognition. , 2015, , .		23
40	Computer Aided Breast Cancer Detection Using Ensembling of Texture and Statistical Image Features. Sensors, 2021, 21, 3628.	3.8	23
41	Radial Basis Function Networks for Convolutional Neural Networks to Learn Similarity Distance Metric and Improve Interpretability. IEEE Access, 2020, 8, 123087-123097.	4.2	22
42	Kalman Filter Based Classifier Fusion for Affective State Recognition. Lecture Notes in Computer Science, 2013, , 85-94.	1.3	22
43	Multi-Modal Classifier-Fusion for the Recognition of Emotions. , 2013, , 73-97.		21
44	Machine Learning in Cereal Crops Disease Detection: A Review. Algorithms, 2022, 15, 75.	2.1	21
45	Classification of Mammograms Using Convolutional Neural Network Based Feature Extraction. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2018, , 89-98.	0.3	20
46	The uulmMAC Database—A Multimodal Affective Corpus for Affective Computing in Human-Computer Interaction. Sensors, 2020, 20, 2308.	3.8	20
47	Radial basis function neural networks and temporal fusion for the classification of bioacoustic time series. Neurocomputing, 2003, 51, 265-275.	5.9	19
48	Tree-Structured Support Vector Machines for Multi-class Pattern Recognition. Lecture Notes in Computer Science, 2001, , 409-417.	1.3	19
49	Multiple Classifier Systems for the Recogonition of Human Emotions. Lecture Notes in Computer Science, 2010, , 315-324.	1.3	19
50	Pain recognition with camera photoplethysmography. , 2017, , .		18
51	Multimodal Laughter Detection in Natural Discourses. Cognitive Systems Monographs, 2009, , 111-120.	0.1	18
52	Multimodal Deep Denoising Convolutional Autoencoders for Pain Intensity Classification based on Physiological Signals. , 2020, , .		18
53	The GMM-SVM Supervector Approach for the Recognition of the Emotional Status from Speech. Lecture Notes in Computer Science, 2009, , 894-903.	1.3	17
54	A Multiple Classifier System Approach for Facial Expressions in Image Sequences Utilizing GMM Supervectors. , 2010, , .		17

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55	Prosodic, Spectral and Voice Quality Feature Selection Using a Long-Term Stopping Criterion for Audio-Based Emotion Recognition. , 2014, , .		17
56	Revisiting the EmotiW challenge: how wild is it really?. Journal on Multimodal User Interfaces, 2016, 10, 151-162.	2.9	17
57	Automatic pectoral muscle removal in mammograms. Evolving Systems, 2021, 12, 519-526.	3.9	17
58	A Hidden Markov Model Based Approach for Facial Expression Recognition in Image Sequences. Lecture Notes in Computer Science, 2010, , 149-160.	1.3	17
59	Multi-classifier-Systems: Architectures, Algorithms and Applications. Studies in Computational Intelligence, 2018, , 83-113.	0.9	16
60	Gray Level Image Contrast Enhancement Using Barnacles Mating Optimizer. IEEE Access, 2020, 8, 169196-169214.	4.2	16
61	Multi-Modal Pain Intensity Assessment Based on Physiological Signals: A Deep Learning Perspective. Frontiers in Physiology, 2021, 12, 720464.	2.8	16
62	Conditioned hidden Markov model fusion for multimodal classification. , 0, , .		16
63	On the discovery of events in EEG data utilizing information fusion. Computational Statistics, 2013, 28, 5-18.	1.5	15
64	Multi classifier systems and forward backward feature selection algorithms to classify emotional coloured speech. , 2013, , .		15
65	Selective neural network ensembles in reinforcement learning: Taking the advantage of many agents. Neurocomputing, 2015, 169, 350-357.	5.9	15
66	CovidConvLSTM: A fuzzy ensemble model for COVID-19 detection from chest X-rays. Expert Systems With Applications, 2022, 206, 117812.	7.6	15
67	Incorporating uncertainty in a layered HMM architecture for human activity recognition. , 2011, , .		14
68	Multimodal fusion including camera photoplethysmography for pain recognition. , 2017, , .		14
69	Emotion Recognition from Speech Using Multi-Classifier Systems and RBF-Ensembles. Studies in Computational Intelligence, 2008, , 49-70.	0.9	14
70	Automated annotation of Orthoptera songs: first results from analysing the DORSA sound repository. Journal of Orthoptera Research, 2006, 15, 105-113.	1.0	13
71	Multiple classifier combination using reject options and markov fusion networks. , 2012, , .		13
72	Cascaded Fusion of Dynamic, Spatial, and Textural Feature Sets for Person-Independent Facial Emotion Recognition. , 2014, , .		13

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73	Multi-modal data fusion for pain intensity assessment and classification. , 2017, , .		13
74	Feature Selection for Recognition of Online Handwritten Bangla Characters. Neural Processing Letters, 2019, 50, 2281-2304.	3.2	13
75	Ensemble of Deep Learning Models for Sleep Apnea Detection: An Experimental Study. Sensors, 2021, 21, 5425.	3.8	13
76	Ensemble Methods for Reinforcement Learning with Function Approximation. Lecture Notes in Computer Science, 2011, , 56-65.	1.3	12
77	Combination of sequential class distributions from multiple channels using Markov fusion networks. Journal on Multimodal User Interfaces, 2014, 8, 257-272.	2.9	12
78	Comparison of Multiclass SVM Decomposition Schemes for Visual Object Recognition. Lecture Notes in Computer Science, 2005, , 334-341.	1.3	12
79	Classifier Based Breast Cancer Segmentation. Journal of Biomimetics, Biomaterials and Biomedical Engineering, 0, 47, 41-61.	0.5	12
80	Data fusion for automated pain recognition. , 2015, , .		11
81	Using Radial Basis Function Neural Networks for Continuous and Discrete Pain Estimation from Bio-physiological Signals. Lecture Notes in Computer Science, 2016, , 269-284.	1.3	11
82	Support Vector Regression of Sparse Dictionary-Based Features for View-Independent Action Unit Intensity Estimation. , 2017, , .		11
83	Trace and Detect Adversarial Attacks on CNNs Using Feature Response Maps. Lecture Notes in Computer Science, 2018, , 346-358.	1.3	11
84	A novel segmentation technique for online handwritten Bangla words. Pattern Recognition Letters, 2020, 139, 26-33.	4.2	11
85	Semi-supervised Learning for Regression with Co-training by Committee. Lecture Notes in Computer Science, 2009, , 121-130.	1.3	11
86	Ordinal Classification: Working Definition and Detection of Ordinal Structures. IEEE Access, 2020, 8, 164380-164391.	4.2	10
87	Orientation Histograms for Face Recognition. Lecture Notes in Computer Science, 2006, , 253-259.	1.3	10
88	Fusion of Fragmentary Classifier Decisions for Affective State Recognition. Lecture Notes in Computer Science, 2013, , 116-130.	1.3	10
89	Detection of Emotional Events utilizing Support Vector Methods in an Active Learning HCI Scenario. , 2014, , .		9

90 Continuous Multimodal Human Affect Estimation using Echo State Networks. , 2016, , .

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91	Median Filter Aided CNN Based Image Denoising: An Ensemble Approach. Algorithms, 2021, 14, 109.	2.1	9
92	Active Multi-Instance Multi-Label Learning. Studies in Classification, Data Analysis, and Knowledge Organization, 2016, , 91-101.	0.2	8
93	A Temporal Dependency Based Multi-modal Active Learning Approach for Audiovisual Event Detection. Neural Processing Letters, 2018, 48, 709-732.	3.2	8
94	Off the Mainstream: Advances in Neural Networks and Machine Learning for Pattern Recognition. Neural Processing Letters, 2018, 48, 643-648.	3.2	8
95	Artificial Development by Reinforcement Learning Can Benefit From Multiple Motivations. Frontiers in Robotics and Al, 2019, 6, 6.	3.2	8
96	A Framework for Emotions and Dispositions in Man-Companion Interaction. , 2013, , 99-140.		8
97	Learning a Strategy with Neural Approximated Temporal-Difference Methods in English Draughts. , 2010, , .		7
98	Spectral graph features for the classification of graphs and graph sequences. Computational Statistics, 2014, 29, 65-80.	1.5	7
99	Dropout Induced Noise for Co-Creative GAN Systems. , 2019, , .		7
100	Next-Generation Neural Networks: Capsule Networks With Routing-by-Agreement for Text Classification. IEEE Access, 2021, 9, 125269-125299.	4.2	7
101	Using Dempster-Shafer Theory in MCF Systems to Reject Samples. Lecture Notes in Computer Science, 2005, , 118-127.	1.3	7
102	Hierarchical Neural Networks Utilising Dempster-Shafer Evidence Theory. Lecture Notes in Computer Science, 2006, , 198-209.	1.3	7
103	Audio-Visual Recognition of Pain Intensity. Lecture Notes in Computer Science, 2017, , 110-126.	1.3	7
104	Meta-Learning of Exploration and Exploitation Parameters with Replacing Eligibility Traces. Lecture Notes in Computer Science, 2013, , 68-79.	1.3	7
105	Enhanced Autocorrelation in Real World Emotion Recognition. , 2014, , .		6
106	Semi-supervised clustering of large data sets with kernel methods. Pattern Recognition Letters, 2014, 37, 78-84.	4.2	6
107	Fusion Mappings for Multimodal Affect Recognition. , 2015, , .		6
108	uulmMAD – A Human Action Recognition Dataset for Ground-Truth Evaluation and Investigation of View Invariances. Lecture Notes in Computer Science, 2015, , 77-91.	1.3	6

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109	Inferring mental overload based on postural behavior and gestures. , 2016, , .		6
110	Machine Learning Driven Heart Rate Detection with Camera Photoplethysmography in Time Domain. Lecture Notes in Computer Science, 2016, , 324-334.	1.3	6
111	Going Further in Affective Computing: How Emotion Recognition Can Improve Adaptive User Interaction. Intelligent Systems Reference Library, 2016, , 73-103.	1.2	6
112	Evolutionary Algorithms for the Design of Neural Network Classifiers for the Classification of Pain Intensity. Lecture Notes in Computer Science, 2019, , 84-100.	1.3	6
113	Using a Quartile-based Data Transformation for Pain Intensity Classification based on the SenseEmotion Database. , 2019, , .		6
114	Experiments with Supervised Fuzzy LVQ. Lecture Notes in Computer Science, 2008, , 125-132.	1.3	6
115	Studying Self- and Active-Training Methods for Multi-feature Set Emotion Recognition. Lecture Notes in Computer Science, 2012, , 19-31.	1.3	6
116	Atlas - Annotation tool using partially supervised learning and multi-view co-learning in human-computer-interaction scenarios. , 2012, , .		5
117	The Influence of Annotation, Corpus Design, and Evaluation on the Outcome of Automatic Classification of Human Emotions. Frontiers in ICT, 2016, 3, .	3.6	5
118	A functional data analysis approach for continuous 2-D emotion annotations. Web Intelligence, 2019, 17, 41-52.	0.2	5
119	On Annotation and Evaluation of Multi-modal Corpora in Affective Human-Computer Interaction. Lecture Notes in Computer Science, 2015, , 35-44.	1.3	5
120	Decision Templates Based RBF Network for Tree-Structured Multiple Classifier Fusion. Lecture Notes in Computer Science, 2009, , 92-101.	1.3	5
121	Semi-supervised Facial Expressions Annotation Using Co-Training with Fast Probabilistic Tri-Class SVMs. Lecture Notes in Computer Science, 2010, , 70-75.	1.3	5
122	Revisiting AVEC 2011 – An Information Fusion Architecture. Smart Innovation, Systems and Technologies, 2013, , 385-393.	0.6	5
123	JUMRv1: A Sentiment Analysis Dataset for Movie Recommendation. Applied Sciences (Switzerland), 2021, 11, 9381.	2.5	5
124	Recognizing User Preferences Based on Layered Activity Recognition and First-Order Logic. , 2013, , .		4
125	Hidden Markov models with graph densities for action recognition. , 2013, , .		4
126	Ensembles of Support Vector Data Description for Active Learning Based Annotation of Affective Corpora. , 2015, , .		4

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127	Deep Learning Algorithms for Emotion Recognition on Low Power Single Board Computers. Lecture Notes in Computer Science, 2019, , 59-70.	1.3	4
128	Combining Deep and Hand-Crafted Features for Audio-Based Pain Intensity Classification. Lecture Notes in Computer Science, 2019, , 49-58.	1.3	4
129	Deep Domain Adaptation for Facial Expression Analysis. , 2019, , .		4
130	Object Classification Using Simple, Colour Based Visual Attention and a Hierarchical Neural Network for Neuro-symbolic Integration. Lecture Notes in Computer Science, 1999, , 267-279.	1.3	4
131	A New Multi-class Fuzzy Support Vector Machine Algorithm. Lecture Notes in Computer Science, 2014, , 153-164.	1.3	4
132	Fusion Architectures for Multimodal Cognitive Load Recognition. Lecture Notes in Computer Science, 2017, , 36-47.	1.3	4
133	Combining Committee-Based Semi-supervised and Active Learning and Its Application to Handwritten Digits Recognition. Lecture Notes in Computer Science, 2010, , 225-234.	1.3	4
134	Real-Time Emotion Recognition Using Echo State Networks. Lecture Notes in Computer Science, 2008, , 200-204.	1.3	4
135	Integral representation of normalized weak Markov systems. Journal of Approximation Theory, 1992, 68, 1-24.	0.8	3
136	A Multi-objective Genetic Algorithm for Pruning Support Vector Machines. , 2011, , .		3
137	Automatic emotion classification vs. human perception: Comparing machine performance to the human benchmark. , 2012, , .		3
138	Using speaker group dependent modelling to improve fusion of fragmentary classifier decisions. , 2013, , .		3
139	Emotion Recognition from Speech. Cognitive Technologies, 2017, , 409-428.	0.8	3
140	Selecting Features from Foreign Classes. Lecture Notes in Computer Science, 2018, , 66-77.	1.3	3
141	Visualizing Facial Expression Features of Pain and Emotion Data. Lecture Notes in Computer Science, 2019, , 101-115.	1.3	3
142	Dominant Channel Fusion Architectures - An Intelligent Late Fusion Approach. , 2020, , .		3
143	Introducing Bidirectional Ordinal Classifier Cascades Based on a Pain Intensity Recognition Scenario. Lecture Notes in Computer Science, 2021, , 773-787.	1.3	3
144	Using Meta Labels for the Training of Weighting Models in a Sample-Specific Late Fusion Classification Architecture. , 2021, , .		3

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145	Sensor-Fusion in Neural Networks. NATO Science for Peace and Security Series C: Environmental Security, 2009, , 299-306.	0.2	3
146	Neural Approximation of Monte Carlo Policy Evaluation Deployed in Connect Four. Lecture Notes in Computer Science, 2008, , 90-100.	1.3	3
147	Classifier Fusion Applied to Facial Expression Recognition: An Experimental Comparison. Cognitive Systems Monographs, 2009, , 121-129.	0.1	3
148	Attention-Gated Reinforcement Learning in Neural Networks—A Unified View. Lecture Notes in Computer Science, 2013, , 272-279.	1.3	3
149	Person Identification based on Physiological Signals: Conditions and Risks. , 2020, , .		3
150	A Theoretical Approach to Ordinal Classification: Feature Space-Based Definition and Classifier-Independent Detection of Ordinal Class Structures. Applied Sciences (Switzerland), 2022, 12, 1815.	2.5	3
151	An elementary proof of the oscillation lemma for weak Markov systems. Journal of Approximation Theory, 1989, 59, 73-75.	0.8	2
152	Preface of pattern recognition in human computer interaction. Pattern Recognition Letters, 2015, 66, 1-3.	4.2	2
153	Multimodal Affect Recognition in the Context of Human-Computer Interaction for Companion-Systems. Cognitive Technologies, 2017, , 387-408.	0.8	2
154	Binary Classification: Counterbalancing Class Imbalance by Applying Regression Models in Combination with One-sided Label Shifts. , 2021, , .		2
155	Filter Method Ensemble with Neural Networks. Lecture Notes in Computer Science, 2019, , 755-765.	1.3	2
156	Pain Intensity Recognition - An Analysis of Short-Time Sequences in a Real-World Scenario. Lecture Notes in Computer Science, 2020, , 149-161.	1.3	2
157	Majority-Class Aware Support Vector Domain Oversampling for Imbalanced Classification Problems. Lecture Notes in Computer Science, 2014, , 83-92.	1.3	2
158	Multi-modal Information Processing in Companion-Systems: A Ticket Purchase System. Cognitive Technologies, 2017, , 493-500.	0.8	2
159	Bimodal Recognition of Cognitive Load Based on Speech and Physiological Changes. Lecture Notes in Computer Science, 2017, , 12-23.	1.3	2
160	Hierarchical Object Classification for Autonomous Mobile Robots. Lecture Notes in Computer Science, 2002, , 831-836.	1.3	2
161	Subject-independent Pain Recognition using Physiological Signals and Para-linguistic Vocalizations. , 2020, , .		2
162	On Gestures and Postural Behavior as a Modality in Ensemble Methods. Lecture Notes in Computer Science, 2016, , 312-323.	1.3	1

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163	Personalized k-fold Cross-Validation Analysis with Transfer from Phasic to Tonic Pain Recognition on X-ITE Pain Database. Lecture Notes in Computer Science, 2021, , 788-802.	1.3	1
164	Parallelized Kernel Patch Clustering. Lecture Notes in Computer Science, 2010, , 131-140.	1.3	1
165	Maximum Echo-State-Likelihood Networks for Emotion Recognition. Lecture Notes in Computer Science, 2010, , 60-71.	1.3	1
166	A Reinforcement Learning Algorithm to Train a Tetris Playing Agent. Lecture Notes in Computer Science, 2014, , 165-170.	1.3	1
167	Audio-Visual User Identification in HCI Scenarios. Lecture Notes in Computer Science, 2015, , 113-122.	1.3	1
168	Using Mask R-CNN for Image-Based Wear Classification of Solid Carbide Milling and Drilling Tools. Lecture Notes in Computer Science, 2020, , 223-234.	1.3	1
169	Multi-view video based tracking and audio-visual identification of persons in a human-computer-interaction scenario. , 2013, , .		0
170	Keynote: Machine learning and data analysis of multimodal affective and pain data. , 2021, , .		0
171	Two to Trust: AutoML for Safe Modelling and Interpretable Deep Learning for Robustness. Lecture Notes in Computer Science, 2021, , 268-275.	1.3	0
172	On Graph-Associated Matrices and Their Eigenvalues for Optical Character Recognition. Lecture Notes in Computer Science, 2012, , 104-114.	1.3	0
173	The Effect of Fuzzy Training Targets on Voice Quality Classification. Lecture Notes in Computer Science, 2013, , 43-51.	1.3	0
174	Monte Carlo Based Importance Estimation of Localized Feature Descriptors for the Recognition of Facial Expressions. Lecture Notes in Computer Science, 2015, , 34-42.	1.3	0