Sudeep Sarkar

List of Publications by Year
in descending order

179 papers	6,618 citations	117625 34 h-index	85541 71 g-index
187 all docs	187 docs citations	187 times ranked	4040 citing authors

#	ARTICLE	IF	CITATIONS
1	The humanID gait challenge problem: data sets, performance, and analysis. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005, 27, 162-177.	13.9	969
2	Comparison and combination of ear and face images in appearance-based biometrics. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2003, 25, 1160-1165.	13.9	480
3	A robust visual method for assessing the relative performance of edge-detection algorithms. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1997, 19, 1338-1359.	13.9	403
4	Improved gait recognition by gait dynamics normalization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2006, 28, 863-876.	13.9	272
5	Comparison of Edge Detectors. Computer Vision and Image Understanding, 1998, 69, 38-54.	4.7	264
6	QCAPro - An error-power estimation tool for QCA circuit design. , 2011, , .		189
7	Estimation of Upper Bound of Power Dissipation in QCA Circuits. IEEE Nanotechnology Magazine, 2009, 8, 116-127.	2.0	157
8	Supervised learning of large perceptual organization: graph spectral partitioning and learning automata. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2000, 22, 504-525.	13.9	153
9	Perceptual organization in computer vision: a review and a proposal for a classificatory structure. IEEE Transactions on Systems, Man, and Cybernetics, 1993, 23, 382-399.	0.9	151
10	Integration, inference, and management of spatial information using Bayesian networks: perceptual organization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1993, 15, 256-274.	13.9	120
11	Macro- and micro-expression spotting in long videos using spatio-temporal strain. , 2011, , .		119
12	Quantitative measures of change based on feature organization: eigenvalues and eigenvectors. , 1996, , .		117
13	On optimal infinite impulse response edge detection filters. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, 13, 1154-1171.	13.9	114
14	Patterns of regional lymph node metastases from cutaneous melanomas of the head and neck. American Journal of Surgery, 1991, 162, 320-323.	1.8	114
15	Handling Movement Epenthesis and Hand Segmentation Ambiguities in Continuous Sign Language Recognition Using Nested Dynamic Programming. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2010, 32, 462-477.	13.9	110
16	Quantitative Measures of Change Based on Feature Organization: Eigenvalues and Eigenvectors. Computer Vision and Image Understanding, 1998, 71, 110-136.	4.7	109
17	Complications of the Pectoralis Major Myocutaneous Flap in the Oral Cavity: A Prospective Evaluation of 220 Cases. Plastic and Reconstructive Surgery, 1996, 98, 31-37.	1.4	103
18	Hydra: An Ensemble of Convolutional Neural Networks for Geospatial Land Classification. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 6530-6541.	6.3	101

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19	Scar Assessment: Current Problems and Future Solutions. Journal of Burn Care and Research, 1999, 20, 54-60.	1.6	89
20	Effect of Silhouette Quality on Hard Problems in Gait Recognition. IEEE Transactions on Systems, Man, and Cybernetics, 2005, 35, 170-183.	5.0	88
21	Are edges sufficient for object recognition?. Journal of Experimental Psychology: Human Perception and Performance, 1998, 24, 340-349.	0.9	80
22	Changing the academic culture: Valuing patents and commercialization toward tenure and career advancement. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6542-6547.	7.1	79
23	A simple strategy for calibrating the geometry of light sources. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2001, 23, 1022-1027.	13.9	74
24	Baseline results for the challenge problem of HumanID using gait analysis. , 0, , .		72
25	Towards macro- and micro-expression spotting in video using strain patterns. , 2009, , .		69
26	Employing fusion of learned and handcrafted features for unconstrained ear recognition. IET Biometrics, 2018, 7, 215-223.	2.5	67
27	Outdoor recognition at a distance by fusing gait and face. Image and Vision Computing, 2007, 25, 817-832.	4.5	60
28	Optimal preventive maintenance in a production inventory system. IIE Transactions, 1999, 31, 537-551.	2.1	59
29	Detection of Thin Lines using Low-Quality Video from Low-Altitude Aircraft in Urban Settings. IEEE Transactions on Aerospace and Electronic Systems, 2009, 45, 937-949.	4.7	59
30	Nonrigid motion analysis based on dynamic refinement of finite element models. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2000, 22, 526-543.	13.9	55
31	Complications following surgery for cancer of the larynx and pyriform fossa. Journal of Surgical Oncology, 1990, 43, 245-249.	1.7	52
32	Statistical motion model based on the change of feature relationships: human gait-based recognition. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2003, 25, 1323-1328.	13.9	49
33	Non-Boolean computing with nanomagnets for computer vision applications. Nature Nanotechnology, 2016, 11, 177-183.	31.5	47
34	A computational structure for preattentive perceptual organization: graphical enumeration and voting methods. IEEE Transactions on Systems, Man, and Cybernetics, 1994, 24, 246-267.	0.9	45
35	A framework for performance characterization of intermediate-level grouping modules. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1997, 19, 1306-1312.	13.9	45
36	Simplest representation yet for gait recognition: averaged silhouette. , 2004, , .		44

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37	Automatic expression spotting in videos. Image and Vision Computing, 2014, 32, 476-486.	4.5	38
38	A Perceptual Prediction Framework for Self Supervised Event Segmentation. , 2019, , .		38
39	Probabilistic Modeling of QCA Circuits Using Bayesian Networks. IEEE Nanotechnology Magazine, 2006, 5, 657-670.	2.0	35
40	Vision–IMU Integration Using a Slow-Frame-Rate Monocular Vision System in an Actual Roadway Setting. IEEE Transactions on Intelligent Transportation Systems, 2010, 11, 256-266.	8.0	35
41	From Scores to Face Templates: A Model-Based Approach. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2007, 29, 2065-2078.	13.9	34
42	Enhanced Level Building Algorithm for the Movement Epenthesis Problem in Sign Language Recognition. , 2007, , .		32
43	Background subtraction in varying illuminations using an ensemble based on an enlarged feature set. , 2009, , .		29
44	Saliency in images and video: a brief survey. IET Computer Vision, 2012, 6, 514-523.	2.0	29
45	Learning Camera Viewpoint Using CNN to Improve 3D Body Pose Estimation. , 2016, , .		28
46	Coupled grouping and matching for sign and gesture recognition. Computer Vision and Image Understanding, 2009, 113, 663-681.	4.7	27
47	Mortality and morbidity of primary pharyngogastric anastomosis following circumferential excision for hypopharyngeal malignancies. Journal of Surgical Oncology, 1990, 43, 24-27.	1.7	26
48	Modeling of Crack Depths in Digital Images of Concrete Pavements Using Optical Reflection Properties. Journal of Transportation Engineering, 2010, 136, 489-499.	0.9	26
49	Efficient Nonlinear Finite Element Modeling of Nonrigid Objects via Optimization of Mesh Models. Computer Vision and Image Understanding, 1998, 69, 330-350.	4.7	25
50	Continuous 3D Face Authentication Using RGB-D Cameras. , 2013, , .		24
51	Rate-Invariant Analysis of Trajectories on Riemannian Manifolds with Application in Visual Speech Recognition. , 2014, , .		24
52	An in-depth study of graph partitioning measures for perceptual organization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2003, 25, 642-660.	13.9	23
53	A constrained genetic approach for computing material property of elastic objects. IEEE Transactions on Evolutionary Computation, 2006, 10, 341-357.	10.0	23
54	Audio Segmentation and Speaker Localization in Meeting Videos. , 2006, , .		23

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55	Multi-scale superquadric fitting for efficient shape and pose recovery of unknown objects. , 2013, , .		23
56	Tissue boundary refinement in magnetic resonance images using contour-based scale space matching. IEEE Transactions on Medical Imaging, 1991, 10, 109-121.	8.9	21
57	A Modeling Approach for Burn Scar Assessment Using Natural Features and Elastic Property. IEEE Transactions on Medical Imaging, 2004, 23, 1325-1329.	8.9	20
58	Evaluation and analysis of a face and voice outdoor multi-biometric system. Pattern Recognition Letters, 2007, 28, 1572-1580.	4.2	20
59	Conditional distance based matching for one-shot gesture recognition. Pattern Recognition, 2015, 48, 1302-1314.	8.1	20
60	Evaluation of Algorithms for Orientation Invariant Inertial Gait Matching. IEEE Transactions on Information Forensics and Security, 2019, 14, 304-318.	6.9	20
61	A simulation-based learning automata framework for solving semi-Markov decision problems under long-run average reward. IIE Transactions, 2004, 36, 557-567.	2.1	19
62	Gesture Recognition using Hidden Markov Models from Fragmented Observations. , 0, , .		19
63	Detecting Coarticulation in Sign Language using Conditional Random Fields. , 2006, , .		19
64	Online Algorithms with Discrete Visibility - Exploring Unknown Polygonal Environments. IEEE Robotics and Automation Magazine, 2008, 15, 67-76.	2.0	18
65	BLOGS: Balanced local and global search for non-degenerate two view epipolar geometry. , 2009, , .		18
66	Distribution-Based Dimensionality Reduction Applied to Articulated Motion Recognition. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 795-810.	13.9	18
67	<title>Toward understanding the limits of gait recognition</title>. , 2004, 5404, 195.		17
68	Exploring Co-Occurence Between Speech and Body Movement for Audio-Guided Video Localization. IEEE Transactions on Circuits and Systems for Video Technology, 2008, 18, 1608-1617.	8.3	17
69	Measuring Human and Economic Activity From Satellite Imagery to Support City-Scale Decision-Making During COVID-19 Pandemic. IEEE Transactions on Big Data, 2021, 7, 56-68.	6.1	17
70	A novel telerobotic method for human-in-the-loop assisted grasping based on intention recognition. , 2014, , .		16
71	Using Perceptual Inference Networks to Manage Vision Processes. Computer Vision and Image Understanding, 1995, 62, 27-46.	4.7	15
72	Fusion of physically-based registration and deformation modeling for nonrigid motion analysis. IEEE Transactions on Image Processing, 2001, 10, 1659-1669.	9.8	15

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73	Progress in Automated Computer Recognition of Sign Language. Lecture Notes in Computer Science, 2004, , 1079-1087.	1.3	15
74	Automated extraction of signs from continuous sign language sentences using Iterated Conditional Modes. , 2009, , .		15
75	Integrating Image Computation in Undergraduate Level Data-Structure Education. International Journal of Pattern Recognition and Artificial Intelligence, 1998, 12, 1071-1080.	1.2	14
76	Study of Dipolar Neighbor Interaction on Magnetization States of Nano-Magnetic Disks. IEEE Transactions on Magnetics, 2013, 49, 3129-3132.	2.1	14
77	Orientation invariant gait matching algorithm based on the Kabsch alignment. , 2015, , .		14
78	"On the localization performance measure and optimal edge detection". IEEE Transactions on Pattern Analysis and Machine Intelligence, 1994, 16, 106-108.	13.9	13
79	A methodology for extracting objective color from images. IEEE Transactions on Systems, Man, and Cybernetics, 2004, 34, 1964-1978.	5.0	13
80	Osteochondroma of the Skull Base. Otolaryngology - Head and Neck Surgery, 2007, 137, 166-168.	1.9	13
81	Calibration of inertial and vision systems as a prelude to multi-sensor fusion. Transportation Research Part C: Emerging Technologies, 2008, 16, 255-274.	7.6	13
82	Subspace Approximation of Face Recognition Algorithms: An Empirical Study. IEEE Transactions on Information Forensics and Security, 2008, 3, 734-748.	6.9	13
83	Model-based force-driven nonrigid motion recovery from sequences of range images without point correspondences. Image and Vision Computing, 1999, 17, 997-1007.	4.5	12
84	Perceptual Organization Based Computational Model for Robust Segmentation of Moving Objects. Computer Vision and Image Understanding, 2002, 86, 141-170.	4.7	12
85	Facial Strain Pattern as a Soft Forensic Evidence. Proceedings IEEE Workshop on Applications of Computer Vision, 2007, , .	0.0	12
86	Biometric Evaluation on the Cloud: A Case Study with HumanID Gait Challenge. , 2012, , .		12
87	Hop-Diffusion Monte Carlo for Epipolar Geometry Estimation between Very Wide-Baseline Images. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 755-762.	13.9	12
88	Robust outdoor text detection using text intensity and shape features. , 2008, , .		11
89	Use of Digital Image Modeling for Evaluation of Concrete Pavement Macrotexture and Wear. Journal of Transportation Engineering, 2012, 138, 589-602.	0.9	11
90	Modeling Parameter Space Behavior of Vision Systems Using Bayesian Networks. Computer Vision and Image Understanding, 2000, 79, 185-223.	4.7	10

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91	Human motion intention based scaled teleoperation for orientation assistance in preshaping for grasping. , 2013, 2013, 6650443.		10
92	The Unconstrained Ear Recognition Challenge 2019. , 2019, , .		10
93	Vision-based on-board collision avoidance system for aircraft navigation. , 2006, , .		9
94	Thermal Switching Error Versus Delay Tradeoffs in Clocked QCA Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 528-541.	3.1	9
95	Relational entropy-based saliency detection in images and videos. , 2012, , .		9
96	Gait Recognition. , 2008, , 109-129.		9
97	Dynamic edge warping: an experimental system for recovering disparity maps in weakly constrained systems. IEEE Transactions on Systems, Man, and Cybernetics, 1991, 21, 143-158.	0.9	8
98	Elastic face - an anatomy-based biometrics beyond visible cue. , 2004, , .		8
99	3D Finite Element Modeling of Nonrigid Breast Deformation for Feature Registration in -ray and MR Images. Proceedings IEEE Workshop on Applications of Computer Vision, 2007, , .	0.0	8
100	Study of magnetization state transition in closely spaced nanomagnet two-dimensional array for computation. Journal of Applied Physics, 2011, 109, 07E513.	2.5	8
101	A sensitivity analysis method and its application in physics-based nonrigid motion modeling. Image and Vision Computing, 2007, 25, 262-273.	4.5	7
102	Error-Power Tradeoffs in QCA Design. , 2008, , .		7
103	Optical Texture-Based Tools for Monitoring Pavement Surface Wear and Cracks Using Digital Images. Transportation Research Record, 2010, 2153, 130-140.	1.9	7
104	Classifier Selection Based on the Correlation of Diversity Measures: When Fewer Is More. , 2013, , .		7
105	Observations on Indian node-negative breast cancer patients: A multivariate analysis. Journal of Surgical Oncology, 1989, 42, 256-263.	1.7	6
106	Direct Quadratic Minimization Using Magnetic Field-Based Computing. , 2008, , .		6
107	Spatially Coherent Interpretations of Videos Using Pattern Theory. International Journal of Computer Vision, 2017, 121, 5-25.	15.6	6
108	Generating open world descriptions of video using common sense knowledge in a pattern theory framework. Quarterly of Applied Mathematics, 2019, 77, 323-356.	0.7	6

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109	Towards Physically-Sound Registration Using Object-Specific Properties for Regularization. Lecture Notes in Computer Science, 2003, , 358-366.	1.3	6
110	Face recognition under camouflage and adverse illumination. , 2010, , .		5
111	Segmentation-robust representations, matching, and modeling for sign language. , 2011, , .		5
112	Magnetic State Estimator to Characterize the Magnetic States of Nano-Magnetic Disks. IEEE Transactions on Magnetics, 2013, 49, 3545-3548.	2.1	5
113	Orthogonal projection images for 3D face detection. Pattern Recognition Letters, 2014, 50, 72-81.	4.2	5
114	Temporally coherent interpretations for long videos using pattern theory. , 2015, , .		5
115	Towards a Knowledge-Based Approach for Generating Video Descriptions. , 2017, , .		5
116	A Quotient Space Formulation for Generative Statistical Analysis of Graphical Data. Journal of Mathematical Imaging and Vision, 2021, 63, 735-752.	1.3	5
117	Hypothesizing Structures in Edge-Focused Cerebral Magnetic Resonance Images Using Graph-Theoretic Cycle Enumeration. Computer Vision and Image Understanding, 1993, 57, 81-98.	4.7	5
118	Action Localization Through Continual Predictive Learning. Lecture Notes in Computer Science, 2020, , 300-317.	1.3	5
119	Experimental results of a vision-based burn scar assessment technique. , 0, , .		4
120	A METHOD FOR INCREASING PRECISION AND RELIABILITY OF ELASTICITY ANALYSIS IN COMPLICATED BURN SCAR CASES. International Journal of Pattern Recognition and Artificial Intelligence, 2000, 14, 189-210.	1.2	4
121	Graphical probabilistic inference for ground state and near-ground state computing in QCA circuits. , 0, , .		4
122	A Non-Iterative Approach to Reconstruct Face Templates from Match Scores. , 2006, , .		4
123	Finite element modeling of facial deformation in videos for computing strain pattern. , 2008, , .		4
124	View Clustering of Wide-Baseline N-views for Photo Tourism. , 2011, , .		4
125	Design, implementation and evaluation of a motion control scheme for mobile platforms with high uncertainties. , 2014, , .		4
126	Fine-grained Action Detection in Untrimmed Surveillance Videos. , 2019, , .		4

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127	Formulation and Validation of an Intuitive Quality Measure for Antipodal Grasp Pose Evaluation. IEEE Robotics and Automation Letters, 2021, 6, 6907-6914.	5.1	4
128	Exploring an Unknown Polygonal Environment with Bounded Visibility. Lecture Notes in Computer Science, 2001, , 640-648.	1.3	4
129	Automated design of Bayesian perceptual inference networks. , 1994, , .		3
130	Three-dimensional finite element model for lesion correspondence in breast imaging. , 2004, 5370, 1372.		3
131	Association of Sound to Motion in Video using Perceptual Organization. , 2006, , .		3
132	An experimental demonstration of the viability of energy minimizing computing using nano-magnets. , 2011, , .		3
133	Pattern Theory-Based Interpretation of Activities. , 2014, , .		3
134	Building semantic understanding beyond deep learning from sound and vision. , 2016, , .		3
135	Pattern theory for representation and inference of semantic structures in videos. Pattern Recognition Letters, 2016, 72, 41-51.	4.2	3
136	Using Semantic Relationships among Objects for Geospatial Land Use Classification. , 2018, , .		3
137	Going Deeper With Semantics: Video Activity Interpretation Using Semantic Contextualization. , 2019, , .		3
138	Evaluation of Facial Reconstructive Surgery on Patients with Facial Palsy Using Optical Strain. Lecture Notes in Computer Science, 2011, , 512-519.	1.3	3
139	People Counter: Counting of Mostly Static People in Indoor Conditions. Studies in Computational Intelligence, 2012, , 133-159.	0.9	3
140	Background subtraction in varying illuminations using an ensemble based on an enlarged feature set. , 2009, , .		3
141	Rapid assessment and response: some lessons learnt in the south Asian context. International Journal of Drug Policy, 2000, 11, 51-54.	3.3	2
142	Motion segmentation based on perceptual organization of spatio-temporal volumes. , 0, , .		2
143	Synthesizing energy minimizing quantum-dot cellular automata circuits for vision computing. , 0, , .		2
144	An outdoor biometric system: evaluation of normalization fusion schemes for face and voice. , 2006, 6202, 212.		2

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145	Wiki-enhanced social scribing of lectures: A case study in an undergraduate course. , 2009, , .		2
146	FUSION OF MANUAL AND NON-MANUAL INFORMATION IN AMERICAN SIGN LANGUAGE RECOGNITION. , 2009, , 477-495.		2
147	Modeling Facial Skin Motion Properties in Video and Its Application to Matching Faces across Expressions. , 2010, , .		2
148	REM. , 2010, , .		2
149	Similarity Measure between Two Gestures Using Triplets. , 2013, , .		2
150	Rewarding academic innovation. Science, 2014, 346, 928-929.	12.6	2
151	Scene-Dependent Intention Recognition for Task Communication with Reduced Human-Robot Interaction. Lecture Notes in Computer Science, 2015, , 730-745.	1.3	2
152	Measuring Economic Activity From Space: A Case Study Using Flying Airplanes and COVID-19. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 7213-7224.	4.9	2
153	Evaluation of Gait Recognition. , 2009, , 281-289.		2
154	Gait Recognition: Evaluation. , 2014, , 1-12.		2
155	Computing perceptual organization using voting methods and graphical enumeration. , 0, , .		1
156	Optimal preventive maintenance in a production inventory system. , 1999, 31, 537-551.		1
157	A constrained genetic approach for reconstructing Young's modulus of elastic objects from boundary displacement measurements. , 0, , .		1
158	An introduction to perceptual organization. , 0, , .		1
159	Parallelizing motion segmentation by perceptual organization of XYT. , 2004, , .		1
160	Privacy & Security Issues Related to Match Scores. , 0, , .		1
161	Globally Linear Embedding of Biometric Scores: An Empirical Study. , 2008, , .		1
162	Optical Flow Based Expression Suppression in Video. , 2014, , .		1

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163	View-Invariant Method for Calculating 2D Optical Strain. Lecture Notes in Computer Science, 2013, , 42-49.	1.3	1
164	Finding Recurrent Patterns from Continuous Sign Language Sentences for Automated Extraction of Signs. The Springer Series on Challenges in Machine Learning, 2017, , 203-230.	10.4	1
165	MatlabHTM: A sequence memory model of neocortical layers for anomaly detection. SoftwareX, 2020, 11, 100491.	2.6	1
166	Automated extraction of signs from continuous sign language sentences using Iterated Conditional Modes. , 2009, , .		1
167	Dumbbell tumors of the neck: The posterior operative approach. Journal of Surgical Oncology, 1995, 59, 209-210.	1.7	0
168	Clip retrieval using multi-modal biometrics in meeting archives. , 2008, , .		0
169	Detecting Group Turn Patterns in Conversations Using Audio-Video Change Scale-Space. , 2010, , .		0
170	Tool for analysis and quantification of fabrication layouts in nanomagnet-based computing. , 2011, , .		0
171	Fast detection of noisy GPS and magnetometer tags in wide-baseline multi-views. , 2011, , .		0
172	Rate-invariant comparisons of covariance paths for visual speech recognition. , 2013, , .		0
173	High-resolution 3D surface strain magnitude using 2D camera and low-resolution depth sensor. Pattern Recognition Letters, 2014, 50, 34-42.	4.2	0
174	Indirect costs: The reimbursement gap. Nature, 2015, 517, 438-438.	27.8	0
175	A Graph-based Approach for Static Ensemble Selection in Remote Sensing Image Analysis. , 2018, , .		0
176	Gait Recognition. , 2021, , 1-7.		0
177	Fusion of Vision Inertial Data for Automatic Georeferencing. Industrial Innovation Series, 2008, , 107-130.	0.2	0
178	On the Inherent Explainability of Pattern Theory-Based Video Event Interpretations. The Springer Series on Challenges in Machine Learning, 2018, , 277-299.	10.4	0
179	Automatic pressure ulcer measurement using RGB-D data. , 2019, , .		0