

# Sudeep Sarkar

## List of Publications by Year in descending order

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179  
papers

6,618  
citations

117453

34  
h-index

85405

71  
g-index

187  
all docs

187  
docs citations

187  
times ranked

4040  
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	4.4	17
2	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.	2.3	2
3	A Quotient Space Formulation for Generative Statistical Analysis of Graphical Data. Journal of Mathematical Imaging and Vision, 2021, 63, 735-752.	0.8	5
4	Formulation and Validation of an Intuitive Quality Measure for Antipodal Grasp Pose Evaluation. IEEE Robotics and Automation Letters, 2021, 6, 6907-6914.	3.3	4
5	Gait Recognition. , 2021, , 1-7.		0
6	Action Localization Through Continual Predictive Learning. Lecture Notes in Computer Science, 2020, , 300-317.	1.0	5
7	MatlabHTM: A sequence memory model of neocortical layers for anomaly detection. SoftwareX, 2020, 11, 100491.	1.2	1
8	Evaluation of Algorithms for Orientation Invariant Inertial Gait Matching. IEEE Transactions on Information Forensics and Security, 2019, 14, 304-318.	4.5	20
9	Going Deeper With Semantics: Video Activity Interpretation Using Semantic Contextualization. , 2019, , .		3
10	Generating open world descriptions of video using common sense knowledge in a pattern theory framework. Quarterly of Applied Mathematics, 2019, 77, 323-356.	0.5	6
11	Hydra: An Ensemble of Convolutional Neural Networks for Geospatial Land Classification. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 6530-6541.	2.7	101
12	Fine-grained Action Detection in Untrimmed Surveillance Videos. , 2019, , .		4
13	A Perceptual Prediction Framework for Self Supervised Event Segmentation. , 2019, , .		38
14	The Unconstrained Ear Recognition Challenge 2019. , 2019, , .		10
15	Automatic pressure ulcer measurement using RGB-D data. , 2019, , .		0
16	Employing fusion of learned and handcrafted features for unconstrained ear recognition. IET Biometrics, 2018, 7, 215-223.	1.6	67
17	A Graph-based Approach for Static Ensemble Selection in Remote Sensing Image Analysis. , 2018, , .		0
18	Using Semantic Relationships among Objects for Geospatial Land Use Classification. , 2018, , .		3

#	ARTICLE	IF	CITATIONS
19	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
20	Spatially Coherent Interpretations of Videos Using Pattern Theory. International Journal of Computer Vision, 2017, 121, 5-25.	10.9	6
21	Towards a Knowledge-Based Approach for Generating Video Descriptions. , 2017, , .		5
22	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
23	Building semantic understanding beyond deep learning from sound and vision. , 2016, , .		3
24	Learning Camera Viewpoint Using CNN to Improve 3D Body Pose Estimation. , 2016, , .		28
25	Pattern theory for representation and inference of semantic structures in videos. Pattern Recognition Letters, 2016, 72, 41-51.	2.6	3
26	Non-Boolean computing with nanomagnets for computer vision applications. Nature Nanotechnology, 2016, 11, 177-183.	15.6	47
27	Scene-Dependent Intention Recognition for Task Communication with Reduced Human-Robot Interaction. Lecture Notes in Computer Science, 2015, , 730-745.	1.0	2
28	Temporally coherent interpretations for long videos using pattern theory. , 2015, , .		5
29	Conditional distance based matching for one-shot gesture recognition. Pattern Recognition, 2015, 48, 1302-1314.	5.1	20
30	Indirect costs: The reimbursement gap. Nature, 2015, 517, 438-438.	13.7	0
31	Orientation invariant gait matching algorithm based on the Kabsch alignment. , 2015, , .		14
32	Pattern Theory-Based Interpretation of Activities. , 2014, , .		3
33	A novel telerobotic method for human-in-the-loop assisted grasping based on intention recognition. , 2014, , .		16
34	Design, implementation and evaluation of a motion control scheme for mobile platforms with high uncertainties. , 2014, , .		4
35	Optical Flow Based Expression Suppression in Video. , 2014, , .		1
36	High-resolution 3D surface strain magnitude using 2D camera and low-resolution depth sensor. Pattern Recognition Letters, 2014, 50, 34-42.	2.6	0

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37	Orthogonal projection images for 3D face detection. Pattern Recognition Letters, 2014, 50, 72-81.	2.6	5
38	Rewarding academic innovation. Science, 2014, 346, 928-929.	6.0	2
39	Rate-Invariant Analysis of Trajectories on Riemannian Manifolds with Application in Visual Speech Recognition. , 2014, , .		24
40	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.	3.3	79
41	Automatic expression spotting in videos. Image and Vision Computing, 2014, 32, 476-486.	2.7	38
42	Gait Recognition: Evaluation. , 2014, , 1-12.		2
43	Study of Dipolar Neighbor Interaction on Magnetization States of Nano-Magnetic Disks. IEEE Transactions on Magnetics, 2013, 49, 3129-3132.	1.2	14
44	Magnetic State Estimator to Characterize the Magnetic States of Nano-Magnetic Disks. IEEE Transactions on Magnetics, 2013, 49, 3545-3548.	1.2	5
45	Classifier Selection Based on the Correlation of Diversity Measures: When Fewer Is More. , 2013, , .		7
46	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.	9.7	12
47	Human motion intention based scaled teleoperation for orientation assistance in preshaping for grasping. , 2013, 2013, 6650443.		10
48	Similarity Measure between Two Gestures Using Triplets. , 2013, , .		2
49	Continuous 3D Face Authentication Using RGB-D Cameras. , 2013, , .		24
50	Multi-scale superquadric fitting for efficient shape and pose recovery of unknown objects. , 2013, , .		23
51	Rate-invariant comparisons of covariance paths for visual speech recognition. , 2013, , .		0
52	View-Invariant Method for Calculating 2D Optical Strain. Lecture Notes in Computer Science, 2013, , 42-49.	1.0	1
53	Biometric Evaluation on the Cloud: A Case Study with HumanID Gait Challenge. , 2012, , .		12
54	Use of Digital Image Modeling for Evaluation of Concrete Pavement Macrotecture and Wear. Journal of Transportation Engineering, 2012, 138, 589-602.	0.9	11

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55	Saliency in images and video: a brief survey. IET Computer Vision, 2012, 6, 514-523.	1.3	29
56	Relational entropy-based saliency detection in images and videos. , 2012, , .		9
57	People Counter: Counting of Mostly Static People in Indoor Conditions. Studies in Computational Intelligence, 2012, , 133-159.	0.7	3
58	View Clustering of Wide-Baseline N-views for Photo Tourism. , 2011, , .		4
59	Tool for analysis and quantification of fabrication layouts in nanomagnet-based computing. , 2011, , .		0
60	Macro- and micro-expression spotting in long videos using spatio-temporal strain. , 2011, , .		119
61	Segmentation-robust representations, matching, and modeling for sign language. , 2011, , .		5
62	Study of magnetization state transition in closely spaced nanomagnet two-dimensional array for computation. Journal of Applied Physics, 2011, 109, 07E513.	1.1	8
63	QCAPro - An error-power estimation tool for QCA circuit design. , 2011, , .		189
64	An experimental demonstration of the viability of energy minimizing computing using nano-magnets. , 2011, , .		3
65	Fast detection of noisy GPS and magnetometer tags in wide-baseline multi-views. , 2011, , .		0
66	Evaluation of Facial Reconstructive Surgery on Patients with Facial Palsy Using Optical Strain. Lecture Notes in Computer Science, 2011, , 512-519.	1.0	3
67	Optical Texture-Based Tools for Monitoring Pavement Surface Wear and Cracks Using Digital Images. Transportation Research Record, 2010, 2153, 130-140.	1.0	7
68	Modeling Facial Skin Motion Properties in Video and Its Application to Matching Faces across Expressions. , 2010, , .		2
69	REM. , 2010, , .		2
70	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
71	Visionâ€™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.	4.7	35
72	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.	9.7	110

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73	Face recognition under camouflage and adverse illumination. , 2010, , .		5
74	Detecting Group Turn Patterns in Conversations Using Audio-Video Change Scale-Space. , 2010, , .		0
75	Towards macro- and micro-expression spotting in video using strain patterns. , 2009, , .		69
76	Automated extraction of signs from continuous sign language sentences using Iterated Conditional Modes. , 2009, , .		15
77	BLOGS: Balanced local and global search for non-degenerate two view epipolar geometry. , 2009, , .		18
78	Wiki-enhanced social scribing of lectures: A case study in an undergraduate course. , 2009, , .		2
79	Coupled grouping and matching for sign and gesture recognition. Computer Vision and Image Understanding, 2009, 113, 663-681.	3.0	27
80	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.	2.6	59
81	Background subtraction in varying illuminations using an ensemble based on an enlarged feature set. , 2009, , .		29
82	Distribution-Based Dimensionality Reduction Applied to Articulated Motion Recognition. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 795-810.	9.7	18
83	Estimation of Upper Bound of Power Dissipation in QCA Circuits. IEEE Nanotechnology Magazine, 2009, 8, 116-127.	1.1	157
84	FUSION OF MANUAL AND NON-MANUAL INFORMATION IN AMERICAN SIGN LANGUAGE RECOGNITION. , 2009, , 477-495.		2
85	Background subtraction in varying illuminations using an ensemble based on an enlarged feature set. , 2009, , .		3
86	Evaluation of Gait Recognition. , 2009, , 281-289.		2
87	Automated extraction of signs from continuous sign language sentences using Iterated Conditional Modes. , 2009, , .		1
88	Calibration of inertial and vision systems as a prelude to multi-sensor fusion. Transportation Research Part C: Emerging Technologies, 2008, 16, 255-274.	3.9	13
89	Subspace Approximation of Face Recognition Algorithms: An Empirical Study. IEEE Transactions on Information Forensics and Security, 2008, 3, 734-748.	4.5	13
90	Online Algorithms with Discrete Visibility - Exploring Unknown Polygonal Environments. IEEE Robotics and Automation Magazine, 2008, 15, 67-76.	2.2	18

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91	Error-Power Tradeoffs in QCA Design. , 2008, , .		7
92	Exploring Co-Occurrence Between Speech and Body Movement for Audio-Guided Video Localization. IEEE Transactions on Circuits and Systems for Video Technology, 2008, 18, 1608-1617.	5.6	17
93	Globally Linear Embedding of Biometric Scores: An Empirical Study. , 2008, , .		1
94	Thermal Switching Error Versus Delay Tradeoffs in Clocked QCA Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2008, 16, 528-541.	2.1	9
95	Clip retrieval using multi-modal biometrics in meeting archives. , 2008, , .		0
96	Finite element modeling of facial deformation in videos for computing strain pattern. , 2008, , .		4
97	Direct Quadratic Minimization Using Magnetic Field-Based Computing. , 2008, , .		6
98	Robust outdoor text detection using text intensity and shape features. , 2008, , .		11
99	Gait Recognition. , 2008, , 109-129.		9
100	Fusion of Vision Inertial Data for Automatic Georeferencing. Industrial Innovation Series, 2008, , 107-130.	0.2	0
101	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
102	Enhanced Level Building Algorithm for the Movement Epenthesis Problem in Sign Language Recognition. , 2007, , .		32
103	Osteochondroma of the Skull Base. Otolaryngology - Head and Neck Surgery, 2007, 137, 166-168.	1.1	13
104	From Scores to Face Templates: A Model-Based Approach. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2007, 29, 2065-2078.	9.7	34
105	Facial Strain Pattern as a Soft Forensic Evidence. Proceedings IEEE Workshop on Applications of Computer Vision, 2007, , .	0.0	12
106	A sensitivity analysis method and its application in physics-based nonrigid motion modeling. Image and Vision Computing, 2007, 25, 262-273.	2.7	7
107	Evaluation and analysis of a face and voice outdoor multi-biometric system. Pattern Recognition Letters, 2007, 28, 1572-1580.	2.6	20
108	Outdoor recognition at a distance by fusing gait and face. Image and Vision Computing, 2007, 25, 817-832.	2.7	60

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109	A constrained genetic approach for computing material property of elastic objects. IEEE Transactions on Evolutionary Computation, 2006, 10, 341-357.	7.5	23
110	Improved gait recognition by gait dynamics normalization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2006, 28, 863-876.	9.7	272
111	Probabilistic Modeling of QCA Circuits Using Bayesian Networks. IEEE Nanotechnology Magazine, 2006, 5, 657-670.	1.1	35
112	A Non-Iterative Approach to Reconstruct Face Templates from Match Scores. , 2006, , .		4
113	An outdoor biometric system: evaluation of normalization fusion schemes for face and voice. , 2006, 6202, 212.		2
114	Audio Segmentation and Speaker Localization in Meeting Videos. , 2006, , .		23
115	Association of Sound to Motion in Video using Perceptual Organization. , 2006, , .		3
116	Vision-based on-board collision avoidance system for aircraft navigation. , 2006, , .		9
117	Detecting Coarticulation in Sign Language using Conditional Random Fields. , 2006, , .		19
118	The humanID gait challenge problem: data sets, performance, and analysis. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005, 27, 162-177.	9.7	969
119	Effect of Silhouette Quality on Hard Problems in Gait Recognition. IEEE Transactions on Systems, Man, and Cybernetics, 2005, 35, 170-183.	5.5	88
120	<title>Toward understanding the limits of gait recognition</title>. , 2004, 5404, 195.		17
121	Parallelizing motion segmentation by perceptual organization of XYT. , 2004, , .		1
122	Elastic face - an anatomy-based biometrics beyond visible cue. , 2004, , .		8
123	Simplest representation yet for gait recognition: averaged silhouette. , 2004, , .		44
124	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
125	A Modeling Approach for Burn Scar Assessment Using Natural Features and Elastic Property. IEEE Transactions on Medical Imaging, 2004, 23, 1325-1329.	5.4	20
126	Progress in Automated Computer Recognition of Sign Language. Lecture Notes in Computer Science, 2004, , 1079-1087.	1.0	15



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127	A methodology for extracting objective color from images. IEEE Transactions on Systems, Man, and Cybernetics, 2004, 34, 1964-1978.	5.5	13
128	Three-dimensional finite element model for lesion correspondence in breast imaging. , 2004, 5370, 1372.		3
129	An in-depth study of graph partitioning measures for perceptual organization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2003, 25, 642-660.	9.7	23
130	Comparison and combination of ear and face images in appearance-based biometrics. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2003, 25, 1160-1165.	9.7	480
131	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.	9.7	49
132	Towards Physically-Sound Registration Using Object-Specific Properties for Regularization. Lecture Notes in Computer Science, 2003, , 358-366.	1.0	6
133	Perceptual Organization Based Computational Model for Robust Segmentation of Moving Objects. Computer Vision and Image Understanding, 2002, 86, 141-170.	3.0	12
134	Fusion of physically-based registration and deformation modeling for nonrigid motion analysis. IEEE Transactions on Image Processing, 2001, 10, 1659-1669.	6.0	15
135	A simple strategy for calibrating the geometry of light sources. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2001, 23, 1022-1027.	9.7	74
136	Exploring an Unknown Polygonal Environment with Bounded Visibility. Lecture Notes in Computer Science, 2001, , 640-648.	1.0	4
137	Modeling Parameter Space Behavior of Vision Systems Using Bayesian Networks. Computer Vision and Image Understanding, 2000, 79, 185-223.	3.0	10
138	Rapid assessment and response: some lessons learnt in the south Asian context. International Journal of Drug Policy, 2000, 11, 51-54.	1.6	2
139	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.	0.7	4
140	Supervised learning of large perceptual organization: graph spectral partitioning and learning automata. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2000, 22, 504-525.	9.7	153
141	Nonrigid motion analysis based on dynamic refinement of finite element models. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2000, 22, 526-543.	9.7	55
142	Optimal preventive maintenance in a production inventory system. , 1999, 31, 537-551.		1
143	Model-based force-driven nonrigid motion recovery from sequences of range images without point correspondences. Image and Vision Computing, 1999, 17, 997-1007.	2.7	12
144	Optimal preventive maintenance in a production inventory system. IIE Transactions, 1999, 31, 537-551.	2.1	59

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145	Scar Assessment: Current Problems and Future Solutions. Journal of Burn Care and Research, 1999, 20, 54-60.	1.7	89
146	Comparison of Edge Detectors. Computer Vision and Image Understanding, 1998, 69, 38-54.	3.0	264
147	Quantitative Measures of Change Based on Feature Organization: Eigenvalues and Eigenvectors. Computer Vision and Image Understanding, 1998, 71, 110-136.	3.0	109
148	Efficient Nonlinear Finite Element Modeling of Nonrigid Objects via Optimization of Mesh Models. Computer Vision and Image Understanding, 1998, 69, 330-350.	3.0	25
149	Integrating Image Computation in Undergraduate Level Data-Structure Education. International Journal of Pattern Recognition and Artificial Intelligence, 1998, 12, 1071-1080.	0.7	14
150	Are edges sufficient for object recognition?. Journal of Experimental Psychology: Human Perception and Performance, 1998, 24, 340-349.	0.7	80
151	A framework for performance characterization of intermediate-level grouping modules. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1997, 19, 1306-1312.	9.7	45
152	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.	9.7	403
153	Quantitative measures of change based on feature organization: eigenvalues and eigenvectors. , 1996, , .		117
154	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.	0.7	103
155	Dumbbell tumors of the neck: The posterior operative approach. Journal of Surgical Oncology, 1995, 59, 209-210.	0.8	0
156	Using Perceptual Inference Networks to Manage Vision Processes. Computer Vision and Image Understanding, 1995, 62, 27-46.	3.0	15
157	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
158	"On the localization performance measure and optimal edge detection". IEEE Transactions on Pattern Analysis and Machine Intelligence, 1994, 16, 106-108.	9.7	13
159	Automated design of Bayesian perceptual inference networks. , 1994, , .		3
160	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
161	Integration, inference, and management of spatial information using Bayesian networks: perceptual organization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1993, 15, 256-274.	9.7	120
162	Hypothesizing Structures in Edge-Focused Cerebral Magnetic Resonance Images Using Graph-Theoretic Cycle Enumeration. Computer Vision and Image Understanding, 1993, 57, 81-98.	3.0	5

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163	On optimal infinite impulse response edge detection filters. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, 13, 1154-1171.	9.7	114
164	Tissue boundary refinement in magnetic resonance images using contour-based scale space matching. IEEE Transactions on Medical Imaging, 1991, 10, 109-121.	5.4	21
165	Patterns of regional lymph node metastases from cutaneous melanomas of the head and neck. American Journal of Surgery, 1991, 162, 320-323.	0.9	114
166	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
167	Mortality and morbidity of primary pharyngogastric anastomosis following circumferential excision for hypopharyngeal malignancies. Journal of Surgical Oncology, 1990, 43, 24-27.	0.8	26
168	Complications following surgery for cancer of the larynx and pyriform fossa. Journal of Surgical Oncology, 1990, 43, 245-249.	0.8	52
169	Observations on Indian node-negative breast cancer patients: A multivariate analysis. Journal of Surgical Oncology, 1989, 42, 256-263.	0.8	6
170	Computing perceptual organization using voting methods and graphical enumeration. , 0, , .		1
171	Experimental results of a vision-based burn scar assessment technique. , 0, , .		4
172	Motion segmentation based on perceptual organization of spatio-temporal volumes. , 0, , .		2
173	Baseline results for the challenge problem of HumanID using gait analysis. , 0, , .		72
174	A constrained genetic approach for reconstructing Young's modulus of elastic objects from boundary displacement measurements. , 0, , .		1
175	An introduction to perceptual organization. , 0, , .		1
176	Synthesizing energy minimizing quantum-dot cellular automata circuits for vision computing. , 0, , .		2
177	Graphical probabilistic inference for ground state and near-ground state computing in QCA circuits. , 0, , .		4
178	Gesture Recognition using Hidden Markov Models from Fragmented Observations. , 0, , .		19
179	Privacy & Security Issues Related to Match Scores. , 0, , .		1