

Cornelia Fermuller

List of Publications by Year in descending order

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117
papers

2,664
citations

218677

26
h-index

276875

41
g-index

117
all docs

117
docs citations

117
times ranked

1740
citing authors

#	ARTICLE	IF	CITATIONS
1	Forecasting Action Through Contact Representations From First Person Video. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2023, 45, 6703-6714.	13.9	17
2	Learning for action-based scene understanding. , 2022, , 373-403.		1
3	Deep-Readout Random Recurrent Neural Networks for Real-World Temporal Data. SN Computer Science, 2022, 3, 1.	3.6	1
4	Joint direct estimation of 3D geometry and 3D motion using spatio temporal gradients. Pattern Recognition, 2021, 113, 107759.	8.1	4
5	Topology-Aware Non-Rigid Point Cloud Registration. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 1056-1069.	13.9	13
6	PRGFlow: Unified SWAP-aware deep global optical flow for aerial robot navigation. Electronics Letters, 2021, 57, 614-617.	1.0	7
7	Robust Nonlinear Control-Based Trajectory Tracking for Quadrotors Under Uncertainty. , 2021, 5, 2042-2047.		12
8	MorphEyes: Variable Baseline Stereo For Quadrotor Navigation. , 2021, , .		3
9	0-MMS: Zero-Shot Multi-Motion Segmentation With A Monocular Event Camera. , 2021, , .		11
10	SpikeMS: Deep Spiking Neural Network for Motion Segmentation. , 2021, , .		9
11	NudgeSeg: Zero-Shot Object Segmentation by Repeated Physical Interaction. , 2021, , .		3
12	A bug's-eye view. Science Robotics, 2020, 5, .	17.6	1
13	Learning Visual Motion Segmentation Using Event Surfaces. , 2020, , .		26
14	Symbolic Representation and Learning With Hyperdimensional Computing. Frontiers in Robotics and AI, 2020, 7, 63.	3.2	13
15	Unsupervised Learning of Dense Optical Flow, Depth and Egomotion with Event-Based Sensors. , 2020, , .		23
16	Learning sensorimotor control with neuromorphic sensors: Toward hyperdimensional active perception. Science Robotics, 2019, 4, .	17.6	60
17	Metaconcepts: Isolating Context in Word Embeddings. , 2019, , .		2
18	SalientDSO: Bringing Attention to Direct Sparse Odometry. IEEE Transactions on Automation Science and Engineering, 2019, 16, 1619-1626.	5.2	34

#	ARTICLE	IF	CITATIONS
19	EV-IMO: Motion Segmentation Dataset and Learning Pipeline for Event Cameras. , 2019, , .		43
20	Image Understanding using vision and reasoning through Scene Description Graph. Computer Vision and Image Understanding, 2018, 173, 33-45.	4.7	46
21	Prediction of Manipulation Actions. International Journal of Computer Vision, 2018, 126, 358-374.	15.6	34
22	Seeing Behind the Scene: Using Symmetry to Reason About Objects in Cluttered Environments. , 2018, , .		10
23	Real-Time Clustering and Multi-Target Tracking Using Event-Based Sensors. , 2018, , .		42
24	Event-Based Moving Object Detection and Tracking. , 2018, , .		170
25	Evenly Cascaded Convolutional Networks. , 2018, , .		2
26	GapFlyt: Active Vision Based Minimalist Structure-Less Gap Detection For Quadrotor Flight. IEEE Robotics and Automation Letters, 2018, 3, 2799-2806.	5.1	71
27	cilantro. , 2018, , .		10
28	Computer Vision and Natural Language Processing. ACM Computing Surveys, 2017, 49, 1-44.	23.0	33
29	What can i do around here? Deep functional scene understanding for cognitive robots. , 2017, , .		23
30	Fast task-specific target detection via graph based constraints representation and checking. , 2017, , .		0
31	Detecting Reflectional Symmetries in 3D Data Through Symmetrical Fitting. , 2017, , .		19
32	A Dataset for Visual Navigation with Neuromorphic Methods. Frontiers in Neuroscience, 2016, 10, 49.	2.8	31
33	Guest Editorial: Special Section on CVPR 2014. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2016, 38, 1281-1282.	13.9	0
34	Co-active learning to adapt humanoid movement for manipulation. , 2016, , .		1
35	Reliable Attribute-Based Object Recognition Using High Predictive Value Classifiers. Lecture Notes in Computer Science, 2016, , 801-815.	1.3	1
36	Cluttered scene segmentation using the symmetry constraint. , 2016, , .		12

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37	Detection and Segmentation of 2D Curved Reflection Symmetric Structures. , 2015, , .		26
38	Contour Detection and Characterization for Asynchronous Event Sensors. , 2015, , .		10
39	Grasp type revisited: A modern perspective on a classical feature for vision. , 2015, , .		42
40	Fast 2D border ownership assignment. , 2015, , .		15
41	A Gestaltist approach to contour-based object recognition: Combining bottom-up and top-down cues. International Journal of Robotics Research, 2015, 34, 627-652.	8.5	8
42	The Cognitive Dialogue: A new model for vision implementing common sense reasoning. Image and Vision Computing, 2015, 34, 42-44.	4.5	6
43	Bio-inspired Motion Estimation with Event-Driven Sensors. Lecture Notes in Computer Science, 2015, , 309-321.	1.3	23
44	Border ownership assignment in real images. Journal of Vision, 2015, 15, 763.	0.3	0
45	Shadow free segmentation in still images using local density measure. , 2014, , .		11
46	Contour Motion Estimation for Asynchronous Event-Driven Cameras. Proceedings of the IEEE, 2014, 102, 1537-1556.	21.3	40
47	Embedding high-level information into low level vision: Efficient object search in clutter. , 2013, , .		6
48	Robots with language: Multi-label visual recognition using NLP. , 2013, , .		4
49	Detection of Manipulation Action Consequences (MAC). , 2013, , .		39
50	Using a minimal action grammar for activity understanding in the real world. , 2012, , .		20
51	Contour-based recognition. , 2012, , .		4
52	Towards a Watson that sees: Language-guided action recognition for robots. , 2012, , .		15
53	The image torque operator: A new tool for mid-level vision. , 2012, , .		9
54	Scale-space texture description on SIFT-like textons. Computer Vision and Image Understanding, 2012, 116, 999-1013.	4.7	84

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55	Active scene recognition with vision and language. , 2011, , .		7
56	Illusory motion due to causal time filtering. Vision Research, 2010, 50, 315-329.	1.4	21
57	Learning shift-invariant sparse representation of actions. , 2010, , .		34
58	Real-time shape retrieval for robotics using skip Tri-Grams. , 2009, , .		0
59	Active segmentation for robotics. , 2009, , .		31
60	Viewpoint Invariant Texture Description Using Fractal Analysis. International Journal of Computer Vision, 2009, 83, 85-100.	15.6	252
61	Robust Wavelet-Based Super-Resolution Reconstruction: Theory and Algorithm. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 649-660.	13.9	100
62	Combining motion from texture and lines for visual navigation. , 2007, , .		0
63	Better Flow Estimation from Color Images. Eurasip Journal on Advances in Signal Processing, 2007, 2007, .	1.7	1
64	A 3D shape constraint on video. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2006, 28, 1018-1023.	13.9	8
65	Depth estimation using the compound eye of dipteran flies. Biological Cybernetics, 2006, 95, 487-501.	1.3	8
66	Noise causes slant underestimation in stereo and motion. Vision Research, 2006, 46, 3105-3120.	1.4	11
67	Motion segmentation using occlusions. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005, 27, 988-992.	13.9	74
68	Detecting Independent 3D Movement. , 2005, , 383-401.		5
69	The argus eye. IEEE Robotics and Automation Magazine, 2004, 11, 31-38.	2.0	9
70	A hierarchy of cameras for 3D photography. Computer Vision and Image Understanding, 2004, 96, 274-293.	4.7	8
71	Uncertainty in visual processes predicts geometrical optical illusions. Vision Research, 2004, 44, 727-749.	1.4	44
72	Bias in Shape Estimation. Lecture Notes in Computer Science, 2004, , 405-416.	1.3	0

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73	Plenoptic video geometry. <i>Visual Computer</i> , 2003, 19, 395-404.	3.5	6
74	Polydioptric Cameras: New Eyes for Structure from Motion. <i>Lecture Notes in Computer Science</i> , 2002, , 618-625.	1.3	2
75	Visual space-time geometry - A tool for perception and the imagination. <i>Proceedings of the IEEE</i> , 2002, 90, 1113-1135.	21.3	5
76	Self-Calibration from Image Derivatives. <i>International Journal of Computer Vision</i> , 2002, 48, 91-114.	15.6	9
77	The Statistics of Optical Flow. <i>Computer Vision and Image Understanding</i> , 2001, 82, 1-32.	4.7	62
78	Geometry of Eye Design: Biology and Technology. <i>Lecture Notes in Computer Science</i> , 2001, , 22-38.	1.3	8
79	Eyes from Eyes. <i>Lecture Notes in Computer Science</i> , 2001, , 204-217.	1.3	3
80	Statistics Explains Geometrical Optical Illusions. , 2001, , 409-445.		5
81	New eyes for building models from video. <i>Computational Geometry: Theory and Applications</i> , 2000, 15, 3-23.	0.5	7
82	Structure from Motion: Beyond the Epipolar Constraint. <i>International Journal of Computer Vision</i> , 2000, 37, 231-258.	15.6	32
83	Observability of 3D Motion. <i>International Journal of Computer Vision</i> , 2000, 37, 43-63.	15.6	47
84	The Ouchi illusion as an artifact of biased flow estimation. <i>Vision Research</i> , 2000, 40, 77-95.	1.4	36
85	A New Framework for Multi-camera Structure from Motion. <i>Informatik Aktuell</i> , 2000, , 75-82.	0.6	0
86	Analyzing Action Representations. <i>Lecture Notes in Computer Science</i> , 2000, , 1-21.	1.3	1
87	Visual space is not cognitively impenetrable. <i>Behavioral and Brain Sciences</i> , 1999, 22, 366-367.	0.7	20
88	Directions of Motion Fields are Hardly Ever Ambiguous. <i>International Journal of Computer Vision</i> , 1998, 26, 5-24.	15.6	35
89	Ambiguity in Structure from Motion: Sphere versus Plane. <i>International Journal of Computer Vision</i> , 1998, 28, 137-154.	15.6	45
90	Effects of Errors in the Viewing Geometry on Shape Estimation. <i>Computer Vision and Image Understanding</i> , 1998, 71, 356-372.	4.7	74

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91	Simultaneous estimation of viewing geometry and structure. Lecture Notes in Computer Science, 1998, , 342-358.	1.3	8
92	What is computed by structure from motion algorithms?. Lecture Notes in Computer Science, 1998, , 359-375.	1.3	8
93	3D Motion and Shape Representations in Visual Servo Control. International Journal of Robotics Research, 1998, 17, 4-18.	8.5	6
94	Beyond the Epipolar Constraint: Integrating 3D Motion and Structure Estimation. Lecture Notes in Computer Science, 1998, , 109-123.	1.3	2
95	The Video Yardstick. Lecture Notes in Computer Science, 1998, , 144-158.	1.3	0
96	Families of stationary patterns producing illusory movement: insights into the visual system. Proceedings of the Royal Society B: Biological Sciences, 1997, 264, 795-806.	2.6	24
97	On the Geometry of Visual Correspondence. International Journal of Computer Vision, 1997, 21, 223-247.	15.6	31
98	Visual space distortion. Biological Cybernetics, 1997, 77, 323-337.	1.3	20
99	The geometry of visual space distortion. Lecture Notes in Computer Science, 1997, , 249-277.	1.3	1
100	The Synthesis of Vision and Action. Springer Series in Perception Engineering, 1996, , 205-240.	0.2	3
101	Passive navigation as a pattern recognition problem. International Journal of Computer Vision, 1995, 14, 147-158.	15.6	38
102	Vision and action. Image and Vision Computing, 1995, 13, 725-744.	4.5	33
103	Direct Perception of Three-Dimensional Motion from Patterns of Visual Motion. Science, 1995, 270, 1973-1976.	12.6	108
104	A syntactic approach to scale-space-based corner description. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1994, 16, 748-751.	13.9	10
105	The role of fixation in visual motion analysis. International Journal of Computer Vision, 1993, 11, 165-186.	15.6	53
106	Tracking facilitates 3-D motion estimation. Biological Cybernetics, 1992, 67, 259-268.	1.3	36
107	Multi-resolution shape description by corners. , 0, , .		4
108	Motion constraint patterns. , 0, , .		2

#	ARTICLE	IF	CITATIONS
109	The information in the direction of image flow. , 0, , .		1
110	The confounding of translation and rotation in reconstruction from multiple views. , 0, , .		3
111	Which shape from motion?. , 0, , .		0
112	Self-calibration from image derivatives. , 0, , .		11
113	Multi-camera networks: eyes from eyes. , 0, , .		16
114	A spherical eye from multiple cameras (makes better models of the world). , 0, , .		27
115	Eyes from eyes: new cameras for structure from motion. , 0, , .		19
116	Polydioptric camera design and 3D motion estimation. , 0, , .		26
117	A Projective Invariant for Textures. , 0, , .		14