Yiannis Aloimonos

List of Publications by Year in descending order

134 papers	3,290 citations	186254 28 h-index	243610 44 g-index
135 all docs	135 docs citations	135 times ranked	2258 citing authors

#	Article	IF	Citations
1	Revisiting active perception. Autonomous Robots, 2018, 42, 177-196.	4.8	171
2	Event-Based Moving Object Detection and Tracking. , 2018, , .		170
3	Affordance detection of tool parts from geometric features. , 2015, , .		161
4	Shape and the Stereo Correspondence Problem. International Journal of Computer Vision, 2005, 65, 147-162.	15.6	104
5	Leadership in Orchestra Emerges from the Causal Relationships of Movement Kinematics. PLoS ONE, 2012, 7, e35757.	2.5	94
6	The minimalist grammar of action. Philosophical Transactions of the Royal Society B: Biological Sciences, 2012, 367, 103-117.	4.0	82
7	Active Visual Segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2012, 34, 639-653.	13.9	81
8	Attribute-Based Transfer Learning for Object Categorization with Zero/One Training Example. Lecture Notes in Computer Science, 2010, , 127-140.	1.3	79
9	Active segmentation with fixation. , 2009, , .		77
10	Effects of Errors in the Viewing Geometry on Shape Estimation. Computer Vision and Image Understanding, 1998, 71, 356-372.	4.7	74
11	Motion segmentation using occlusions. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005, 27, 988-992.	13.9	74
12	Qualitative egomotion. International Journal of Computer Vision, 1995, 15, 7-29.	15.6	71
13	GapFlyt: Active Vision Based Minimalist Structure-Less Gap Detection For Quadrotor Flight. IEEE Robotics and Automation Letters, 2018, 3, 2799-2806.	5.1	71
14	A Language for Human Action. Computer, 2007, 40, 42-51.	1.1	68
15	The Statistics of Optical Flow. Computer Vision and Image Understanding, 2001, 82, 1-32.	4.7	62
16	A Roadmap to the Integration of Early Visual Modules. International Journal of Computer Vision, 2007, 72, 9-25.	15.6	62
17	Spatio-Temporal Stereo Using Multi-Resolution Subdivision Surfaces. International Journal of Computer Vision, 2002, 47, 181-193.	15.6	61
18	The role of fixation in visual motion analysis. International Journal of Computer Vision, 1993, 11, 165-186.	15.6	53

#	Article	IF	Citations
19	Estimating the heading direction using normal flow. International Journal of Computer Vision, 1994, 13, 33-56.	15.6	52
20	Seeing and understanding. ACM Computing Surveys, 1995, 27, 307-309.	23.0	49
21	Observability of 3D Motion. International Journal of Computer Vision, 2000, 37, 43-63.	15.6	47
22	View-Invariant Modeling and Recognition of Human Actions Using Grammars. , 2006, , 115-126.		47
23	Image Understanding using vision and reasoning through Scene Description Graph. Computer Vision and Image Understanding, 2018, 173, 33-45.	4.7	46
24	Ambiguity in Structure from Motion: Sphere versus Plane. International Journal of Computer Vision, 1998, 28, 137-154.	15.6	45
25	EV-IMO: Motion Segmentation Dataset and Learning Pipeline for Event Cameras. , 2019, , .		43
26	Grasp type revisited: A modern perspective on a classical feature for vision. , 2015, , .		42
27	Contour Motion Estimation for Asynchronous Event-Driven Cameras. Proceedings of the IEEE, 2014, 102, 1537-1556.	21.3	40
28	Detection of Manipulation Action Consequences (MAC). , 2013, , .		39
29	EVDodgeNet: Deep Dynamic Obstacle Dodging with Event Cameras. , 2020, , .		38
30	Tracking facilitates 3-D motion estimation. Biological Cybernetics, 1992, 67, 259-268.	1.3	36
31	The Ouchi illusion as an artifact of biased flow estimation. Vision Research, 2000, 40, 77-95.	1.4	36
32	Directions of Motion Fields are Hardly Ever Ambiguous. International Journal of Computer Vision, 1998, 26, 5-24.	15.6	35
33	Learning shift-invariant sparse representation of actions. , 2010, , .		34
34	SalientDSO: Bringing Attention to Direct Sparse Odometry. IEEE Transactions on Automation Science and Engineering, 2019, 16, 1619-1626.	5.2	34
35	Vision and action. Image and Vision Computing, 1995, 13, 725-744.	4.5	33
36	Computer Vision and Natural Language Processing. ACM Computing Surveys, 2017, 49, 1-44.	23.0	33

#	Article	IF	Citations
37	Structure from Motion: Beyond the Epipolar Constraint. International Journal of Computer Vision, 2000, 37, 231-258.	15.6	32
38	A sensory grammar for inferring behaviors in sensor networks. , 2006, , .		32
39	On the Geometry of Visual Correspondence. International Journal of Computer Vision, 1997, 21, 223-247.	15.6	31
40	Active segmentation for robotics. , 2009, , .		31
41	A Dataset for Visual Navigation with Neuromorphic Methods. Frontiers in Neuroscience, 2016, 10, 49.	2.8	31
42	Learning the spatial semantics of manipulation actions through preposition grounding. , 2015, , .		28
43	Detection and Segmentation of 2D Curved Reflection Symmetric Structures. , 2015, , .		26
44	Learning Visual Motion Segmentation Using Event Surfaces. , 2020, , .		26
45	ACTIVE SEGMENTATION. International Journal of Humanoid Robotics, 2009, 06, 361-386.	1.1	25
46	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
47	What can i do around here? Deep functional scene understanding for cognitive robots. , 2017, , .		23
48	Bio-inspired Motion Estimation with Event-Driven Sensors. Lecture Notes in Computer Science, 2015, , 309-321.	1.3	23
49	Unsupervised Learning of Dense Optical Flow, Depth and Egomotion with Event-Based Sensors. , 2020, , .		23
50	Purposive, qualitative, active vision. CVGIP Image Understanding, 1992, 56, 1-2.	1.3	22
51	Visual space distortion. Biological Cybernetics, 1997, 77, 323-337.	1.3	20
52	Visual space is not cognitively impenetrable. Behavioral and Brain Sciences, 1999, 22, 366-367.	0.7	20
53	Using a minimal action grammar for activity understanding in the real world. , 2012, , .		20
54	Detecting Reflectional Symmetries in 3D Data Through Symmetrical Fitting. , 2017, , .		19

#	Article	IF	Citations
55	Is visual reconstruction necessary? obstacle avoidance without passive ranging. Journal of Field Robotics, 1992, 9, 843-858.	0.7	17
56	Understanding visuo-motor primitives for motion synthesis and analysis. Computer Animation and Virtual Worlds, 2006, 17, 207-217.	1.2	17
57	A Probabilistic Notion of Correspondence and the Epipolar Constraint. , 2006, , .		16
58	Towards a Watson that sees: Language-guided action recognition for robots. , 2012, , .		15
59	Fast 2D border ownership assignment. , 2015, , .		15
60	Learning hand movements from markerless demonstrations for humanoid tasks. , 2014, , .		14
61	Similarity Learning and Generalization with Limited Data: A Reservoir Computing Approach. Complexity, 2018, 2018, 1-15.	1.6	13
62	Symbolic Representation and Learning With Hyperdimensional Computing. Frontiers in Robotics and AI, 2020, 7, 63.	3.2	13
63	Topology-Aware Non-Rigid Point Cloud Registration. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, 43, 1056-1069.	13.9	13
64	Manipulation action tree bank: A knowledge resource for humanoids. , 2014, , .		12
65	Cluttered scene segmentation using the symmetry constraint. , 2016, , .		12
66	Robust Nonlinear Control-Based Trajectory Tracking for Quadrotors Under Uncertainty. , 2021, 5, 2042-2047.		12
67	A Sensory-Motor Language for Human Activity Understanding. , 2006, , .		11
68	Who killed the directed model?. , 2008, , .		11
69	Minimalist plans for interpreting manipulation actions. , 2013, , .		11
70	Shadow free segmentation in still images using local density measure. , 2014, , .		11
71	0-MMS: Zero-Shot Multi-Motion Segmentation With A Monocular Event Camera. , 2021, , .		11
72	A response to â€œignorance, myopia, and naivetÃ© in computer vision systemsâ€•by R. C. Jain and T. O. Binford. CVGIP Image Understanding, 1991, 53, 120-124.	1.3	10

#	Article	IF	Citations
73	Changes in surface convexity and topology caused by distortions of stereoscopic visual space. Lecture Notes in Computer Science, 1998, , 226-240.	1.3	10
74	Contour Detection and Characterization for Asynchronous Event Sensors. , 2015, , .		10
75	Seeing Behind the Scene: Using Symmetry to Reason About Objects in Cluttered Environments. , 2018, , .		10
76	cilantro. , 2018, , .		10
77	SpikeMS: Deep Spiking Neural Network for Motion Segmentation. , 2021, , .		9
78	Simultaneous estimation of viewing geometry and structure. Lecture Notes in Computer Science, 1998, , 342-358.	1.3	8
79	A hierarchy of cameras for 3D photography. Computer Vision and Image Understanding, 2004, 96, 274-293.	4.7	8
80	A Probabilistic Framework for Correspondence and Egomotion. , 2006, , 232-242.		8
81	Moving obstacle detection using cameras for driver assistance system. , 2010, , .		8
82	The syntax of human actions and interactions. Journal of Neurolinguistics, 2012, 25, 500-514.	1.1	8
83	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
84	Geometry of Eye Design: Biology and Technology. Lecture Notes in Computer Science, 2001, , 22-38.	1.3	8
85	Learning the Semantics of Manipulation Action. , 2015, , .		8
86	New eyes for building models from video. Computational Geometry: Theory and Applications, 2000, 15, 3-23.	0.5	7
87	Multiple View Image Reconstruction: A Harmonic Approach. , 2007, , .		7
88	Active scene recognition with vision and language. , 2011, , .		7
89	PRGFlow: Unified SWAPâ€aware deep global optical flow for aerial robot navigation. Electronics Letters, 2021, 57, 614-617.	1.0	7
90	New Eyes for Shape and Motion Estimation. Lecture Notes in Computer Science, 2000, , 118-128.	1.3	7

#	Article	IF	Citations
91	<title>Purposive recognition: an active and qualitative approach</title>. , 1992, 1611, 225.		6
92	3D Motion and Shape Representations in Visual Servo Control. International Journal of Robotics Research, 1998, 17, 4-18.	8.5	6
93	Embedding high-level information into low level vision: Efficient object search in clutter. , 2013, , .		6
94	The Cognitive Dialogue: A new model for vision implementing common sense reasoning. Image and Vision Computing, 2015, 34, 42-44.	4.5	6
95	An Embodied Tutoring System for Literal vs. Metaphorical Concepts. Frontiers in Psychology, 2018, 9, 2254.	2.1	6
96	Detecting Independent 3D Movement. , 2005, , 383-401.		5
97	Directions of motion fields are hardly ever ambiguous. Lecture Notes in Computer Science, 1996, , 119-128.	1.3	5
98	Statistics Explains Geometrical Optical Illusions. , 2001, , 409-445.		5
99	Structure from Motion of Parallel Lines. Lecture Notes in Computer Science, 2004, , 229-240.	1.3	5
100	Detecting and Counting Oysters. , 2021, , .		5
101	Image Transformations and Blurring. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2009, 31, 1000-9999.	13.9	4
102	The Language of Action. , 2010, , 95-131.		4
103	Robots with language: Multi-label visual recognition using NLP. , 2013, , .		4
104	Joint direct estimation of 3D geometry and 3D motion using spatio temporal gradients. Pattern Recognition, 2021, 113, 107759.	8.1	4
105	Sensory grammars for sensor networks. Journal of Ambient Intelligence and Smart Environments, 2009, 1, 15-21.	1.4	3
106	Eyes from Eyes. Lecture Notes in Computer Science, 2001, , 204-217.	1.3	3
107	MorphEyes: Variable Baseline Stereo For Quadrotor Navigation. , 2021, , .		3
108	The Synthesis of Vision and Action. Springer Series in Perception Engineering, 1996, , 205-240.	0.2	3

#	Article	IF	Citations
109	NudgeSeg: Zero-Shot Object Segmentation by Repeated Physical Interaction. , 2021, , .		3
110	Polydioptric Cameras: New Eyes for Structure from Motion. Lecture Notes in Computer Science, 2002, , 618-625.	1.3	2
111	Evenly Cascaded Convolutional Networks. , 2018, , .		2
112	Metaconcepts: Isolating Context in Word Embeddings. , 2019, , .		2
113	Beyond the Epipolar Constraint: Integrating 3D Motion and Structure Estimation. Lecture Notes in Computer Science, 1998, , 109-123.	1.3	2
114	Animated Heads: From 3D Motion Fields to Action Descriptions. , 2001, , 1-11.		2
115	Human Activity Language: Grounding Concepts with a Linguistic Framework. Lecture Notes in Computer Science, 2006, , 86-100.	1.3	2
116	How normal flow constrains relative depth for an active observer. Image and Vision Computing, 1994, 12, 435-445.	4.5	1
117	The action synergies: Building blocks for understanding human behavior. , 2009, , .		1
118	Studying human behavior from infancy: On the acquisition of infant postural data. , 2014, , .		1
119	A bugâ€™s-eye view. Science Robotics, 2020, 5, .	17.6	1
120	Towards the Ultimate Motion Capture Technology. , 2001, , 143-157.		1
121	Action Attribute Detection from Sports Videos with Contextual Constraints. , 2013, , .		1
122	The geometry of visual space distortion. Lecture Notes in Computer Science, 1997, , 249-277.	1.3	1
123	The Language of Motion MoCap Ontology. Advances in Intelligent Systems and Computing, 2020, , 710-723.	0.6	1
124	Deep-Readout Random Recurrent Neural Networks for Real-World Temporal Data. SN Computer Science, 2022, 3, 1.	3.6	1
125	Semantic Clusters Combined with Kinematics: The Case of English and Modern Greek Motion Verbs. , 0, , .		1
126	Spatiotemporal representations for visual navigation. Lecture Notes in Computer Science, 1996, , 671-684.	1.3	0

#	Article	IF	Citations
127	Computational video. Visual Computer, 2003, 19, 355-359.	3.5	0
128	Signals on Pencils of Lines. , 2007, , .		0
129	Real-time shape retrieval for robotics using skip Tri-Grams. , 2009, , .		0
130	The SB-ST decomposition in the study of Developmental Coordination Disorder. , 2015, , .		0
131	A New Framework for Multi-camera Structure from Motion. Informatik Aktuell, 2000, , 75-82.	0.6	0
132	The Video Yardstick. Lecture Notes in Computer Science, 1998, , 144-158.	1.3	0
133	Vision During Action: Extracting Contact and Motion from Manipulation Videosâ€"Toward Parsing Human Activity. , 2020, , 163-186.		0
134	Grounding Concrete Motion Concepts with a Linguistic Framework. Lecture Notes in Computer Science, 2008, , 1-12.	1.3	0