

Kalle Åström

List of Publications by Year in descending order

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149
papers

2,416
citations

361296

20
h-index

434063

31
g-index

155
all docs

155
docs citations

155
times ranked

1818
citing authors

#	ARTICLE	IF	CITATIONS
1	Revisiting the PnP Problem: A Fast, General and Optimal Solution. , 2013, , .		199
2	Euclidean reconstruction from constant intrinsic parameters. , 1996, , .		123
3	Fast and Stable Polynomial Equation Solving and Its Application to Computer Vision. International Journal of Computer Vision, 2009, 84, 237-256.	10.9	119
4	Efficient Solvers for Minimal Problems by Syzygy-Based Reduction. , 2017, , .		89
5	Robust factorization. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2002, 24, 1215-1225.	9.7	86
6	Critical Motions for Auto-Calibration When Some Intrinsic Parameters Can Vary. Journal of Mathematical Imaging and Vision, 2000, 13, 131-146.	0.8	59
7	Cellular traction forces: a useful parameter in cancer research. Nanoscale, 2017, 9, 19039-19044.	2.8	54
8	Conjugate Gradient Bundle Adjustment. Lecture Notes in Computer Science, 2010, , 114-127.	1.0	52
9	A complete characterization and solution to the microphone position self-calibration problem. , 2013, , .		50
10	Massive MIMO-Based Localization and Mapping Exploiting Phase Information of Multipath Components. IEEE Transactions on Wireless Communications, 2019, 18, 4254-4267.	6.1	45
11	Algebraic properties of multilinear constraints. Mathematical Methods in the Applied Sciences, 1997, 20, 1135-1162.	1.2	41
12	Flexible calibration: minimal cases for auto-calibration. , 1999, , .		41
13	Fast and robust numerical solutions to minimal problems for cameras with radial distortion. , 2008, , .		39
14	Solutions and Ambiguities of the Structure and Motion Problem for 1D Retinal Vision. Journal of Mathematical Imaging and Vision, 2000, 12, 121-135.	0.8	38
15	Pose Estimation with Unknown Focal Length Using Points, Directions and Lines. , 2013, , .		37
16	Feasibility study for the implementation of an automatic system for the detection of social interactions in the waiting area of automatic milking stations by using a video surveillance system. Computers and Electronics in Agriculture, 2016, 127, 506-509.	3.7	37
17	Towards grading gleason score using generically trained deep convolutional neural networks. , 2016, , .		36
18	Beyond Grobner Bases: Basis Selection for Minimal Solvers. , 2018, , .		36

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19	Generalised Epipolar Constraints. International Journal of Computer Vision, 1999, 33, 51-72.	10.9	32
20	A new automated method for analysis of gated-SPECT images based on a three-dimensional heart shaped model. Clinical Physiology and Functional Imaging, 2005, 25, 234-240.	0.5	32
21	Reconstruction of General Curves, Using Factorization and Bundle Adjustment. International Journal of Computer Vision, 2001, 41, 171-182.	10.9	31
22	Minimal conditions on intrinsic parameters for Euclidean reconstruction. Lecture Notes in Computer Science, 1997, , 169-176.	1.0	31
23	Motion estimation in image sequences using the deformation of apparent contours. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1999, 21, 114-127.	9.7	30
24	Improving Numerical Accuracy of Gröbner Basis Polynomial Equation Solvers. , 2007, , .		30
25	Fast Optimal Three View Triangulation. , 2007, , 549-559.		30
26	Robust Fitting for Multiple View Geometry. Lecture Notes in Computer Science, 2012, , 738-751.	1.0	30
27	Polynomial Solvers for Saturated Ideals. , 2017, , .		29
28	Tractable Algorithms for Robust Model Estimation. International Journal of Computer Vision, 2015, 112, 115-129.	10.9	28
29	Automated interpretation of ventilation-perfusion lung scintigrams for the diagnosis of pulmonary embolism using artificial neural networks. European Journal of Nuclear Medicine and Molecular Imaging, 2000, 27, 400-406.	3.3	26
30	Fast Classification of Empty and Occupied Parking Spaces Using Integral Channel Features. , 2016, , .		26
31	Minimal Solvers for Relative Pose with a Single Unknown Radial Distortion. , 2014, , .		25
32	TOA sensor network self-calibration for receiver and transmitter spaces with difference in dimension. Signal Processing, 2015, 107, 33-42.	2.1	24
33	Fast and robust numerical solutions to minimal problems for cameras with radial distortion. Computer Vision and Image Understanding, 2010, 114, 234-244.	3.0	23
34	Minimal Solutions for Panoramic Stitching with Radial Distortion. , 2009, , .		23
35	Absolute pose for cameras under flat refractive interfaces. , 2015, , .		22
36	Tracking and positioning using phase information from estimated multi-path components. , 2015, , .		22

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37	Generalization of prostate cancer classification for multiple sites using deep learning. , 2018, , .		22
38	Measuring and evaluating bitumen coverage of stones using two different digital image analysis methods. Measurement: Journal of the International Measurement Confederation, 2016, 84, 56-67.	2.5	21
39	Bundle Adjustment using Conjugate Gradients with Multiscale Preconditioning. , 2009, , .		21
40	A Column-Pivoting Based Strategy for Monomial Ordering in Numerical GrÃ¶bner Basis Calculations. Lecture Notes in Computer Science, 2008, , 130-143.	1.0	20
41	Fundamental limitations on projective invariants of planar curves. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1995, 17, 77-81.	9.7	19
42	Robust time-of-arrival self calibration and indoor localization using Wi-Fi round-trip time measurements. , 2016, , .		19
43	FROM SPEED PROFILE DATA TO ANALYSIS OF BEHAVIOUR. IATSS Research, 2009, 33, 88-98.	1.8	17
44	Time delay estimation for TDOA self-calibration using truncated nuclear norm regularization. , 2013, , .		17
45	Uncovering Symmetries in Polynomial Systems. Lecture Notes in Computer Science, 2016, , 252-267.	1.0	17
46	Action sequencing in the spontaneous swimming behavior of zebrafish larvae - implications for drug development. Scientific Reports, 2017, 7, 3191.	1.6	17
47	Behavioural responses to co-occurring threats of predation and ultraviolet radiation in <i>Daphnia</i> . Freshwater Biology, 2020, 65, 1509-1517.	1.2	17
48	Image-Based Localization Using Hybrid Feature Correspondences. , 2007, , .		16
49	Single antenna anchor-free UWB positioning based on multipath propagation. , 2013, , .		16
50	Extension of Affine Shape. Journal of Mathematical Imaging and Vision, 1999, 11, 119-136.	0.8	15
51	Towards real-time time-of-arrival self-calibration using ultra-wideband anchors. , 2017, , .		14
52	An independent evaluation of a new method for automated interpretation of lung scintigrams using artificial neural networks. European Journal of Nuclear Medicine and Molecular Imaging, 2001, 28, 33-38.	2.2	13
53	Real Time Viterbi Optimization of Hidden Markov Models for Multi Target Tracking. , 2007, , .		13
54	Smooth pursuit detection in binocular eye-tracking data with automatic video-based performance evaluation. Journal of Vision, 2016, 16, 20.	0.1	13

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55	Sparse Localization of Harmonic Audio Sources. IEEE/ACM Transactions on Audio Speech and Language Processing, 2016, 24, 117-129.	4.0	13
56	Generalised epipolar constraints. Lecture Notes in Computer Science, 1996, , 95-108.	1.0	12
57	Structure and motion from lines under affine projections. , 1999, , .		12
58	Minimal projective reconstruction for combinations of points and lines in three views. Image and Vision Computing, 2004, 22, 777-785.	2.7	12
59	Stochastic modelling and analysis of sub-pixel edge detection. , 1996, , .		11
60	An affine invariant deformable shape representation for general curves. , 2003, , .		11
61	Robust time-of-arrival self calibration with missing data and outliers. , 2016, , .		11
62	Robust phase-based positioning using massive MIMO with limited bandwidth. , 2017, , .		11
63	Ambiguous Configurations for the 1D Structure and Motion Problem. Journal of Mathematical Imaging and Vision, 2003, 18, 191-203.	0.8	10
64	Role of ventilation scintigraphy in diagnosis of acute pulmonary embolism: an evaluation using artificial neural networks. European Journal of Nuclear Medicine and Molecular Imaging, 2003, 30, 961-965.	3.3	10
65	A pilot study of facial, cranial and brain MRI morphometry in men with schizophrenia: Part 2. Psychiatry Research - Neuroimaging, 2006, 147, 187-195.	0.9	10
66	Partial Symmetry in Polynomial Systems and Its Applications in Computer Vision. , 2014, , .		10
67	On the minimal problems of low-rank matrix factorization. , 2015, , .		10
68	Structure and Motion Problems for Multiple Rigidly Moving Cameras. Lecture Notes in Computer Science, 2004, , 252-263.	1.0	10
69	Simplifications of multilinear forms for sequences of images. Image and Vision Computing, 1997, 15, 749-757.	2.7	9
70	Continuous Time Matching Constraints for Image Streams. International Journal of Computer Vision, 1998, 28, 85-96.	10.9	9
71	An L<sub>∞</sub> approach to structure and motion problems in ID-vision. , 2007, , .		9
72	Object tracking with measurements from single or multiple cameras. , 2010, , .		9

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73	TOA-Based Self-Calibration of Dual-Microphone Array. IEEE Journal on Selected Topics in Signal Processing, 2015, 9, 791-801.	7.3	9
74	Calibration, positioning and tracking in a refractive and reflective scene. , 2016, , .		9
75	Optimal Trilateration Is an Eigenvalue Problem. , 2019, , .		9
76	Algebraic varieties in multiple view geometry. Lecture Notes in Computer Science, 1996, , 669-682.	1.0	8
77	Numerically Stable Optimization of Polynomial Solvers for Minimal Problems. Lecture Notes in Computer Science, 2012, , 100-113.	1.0	8
78	The Misty Three Point Algorithm for Relative Pose. , 2017, , .		7
79	Multilinear constraints in the infinitesimal-time case. , 1996, , .		6
80	Parameterisation invariant statistical shape models. , 2004, , .		6
81	Supervised feature quantization with entropy optimization. , 2011, , .		6
82	Revisiting Trifocal Tensor Estimation Using Lines. , 2014, , .		6
83	Prime Rigid Graphs and Multidimensional Scaling with Missing Data. , 2014, , .		6
84	Smartphone positioning in multi-floor environments without calibration or added infrastructure. , 2016, , .		6
85	Automatic Gleason grading of H and E stained microscopic prostate images using deep convolutional neural networks. , 2017, , .		6
86	Robust Self-calibration of Constant Offset Time-difference-of-arrival. , 2019, , .		6
87	Comparison of Different Augmentation Techniques for Improved Generalization Performance for Gleason Grading. , 2019, , .		6
88	An Automated System for the Detection and Diagnosis of Kidney Lesions in Children from Scintigraphy Images. Lecture Notes in Computer Science, 2011, , 489-500.	1.0	6
89	Automatic Compartment Modelling and Segmentation for Dynamical Renal Scintigraphies. Lecture Notes in Computer Science, 2011, , 557-568.	1.0	6
90	Stochastic analysis of image acquisition, interpolation and scale-space smoothing. Advances in Applied Probability, 1999, 31, 855-894.	0.4	6

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91	Stochastic analysis of image acquisition, interpolation and scale-space smoothing. Advances in Applied Probability, 1999, 31, 855-894.	0.4	5
92	Measurement of bitumen coverage of stones for road building, based on digital image analysis. , 2012, , .		5
93	Trust No One: Low Rank Matrix Factorization Using Hierarchical RANSAC. , 2016, , .		5
94	Vision Based Tracker for Dart Catching Robot. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 717-722.	0.4	4
95	Fundamental difficulties with projective normalization of planar curves. Lecture Notes in Computer Science, 1994, , 199-214.	1.0	4
96	A Minimal Solution to Relative Pose with Unknown Focal Length and Radial Distortion. Lecture Notes in Computer Science, 2015, , 443-456.	1.0	4
97	Optimizing Visual Vocabularies Using Soft Assignment Entropies. Lecture Notes in Computer Science, 2011, , 255-268.	1.0	4
98	Affine and projective normalization of planar curves and regions. Lecture Notes in Computer Science, 1994, , 438-448.	1.0	3
99	Stochastic analysis of scale-space smoothing. , 1996, , .		3
100	Reply to Pizlo, Rosenfeld, and Weiss. Computer Vision and Image Understanding, 1997, 65, 436-438.	3.0	3
101	Decision Support System for the Diagnosis of Parkinsonâ€™s Disease. Lecture Notes in Computer Science, 2005, , 740-749.	1.0	3
102	Reconstruction from Planar Motion Image Sequences with Applications for Autonomous Vehicles. Lecture Notes in Computer Science, 2005, , 609-618.	1.0	3
103	Bijjective Image Registration using Thin-Plate Splines.. , 2006, , .		3
104	MDL patch correspondences on unlabeled images with occlusions. , 2008, , .		3
105	Recovering planar motion from homographies obtained using a 2.5-point solver for a polynomial system. , 2016, , .		3
106	Sensor Networks TDOA Self-Calibration: 2D Complexity Analysis and Solutions. , 2021, , .		3
107	Fast and Robust Stratified Self-Calibration Using Time-Difference-Of-Arrival Measurements. , 2021, , .		3
108	Estimating Uncertainty in Time-difference and Doppler Estimates. , 2018, , .		3

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109	Stochastic Analysis of Image Acquisition and Scale-Space Smoothing. Computational Imaging and Vision, 1997, , 129-136.	0.6	3
110	Perception and action using multilinear forms. Lecture Notes in Computer Science, 1997, , 54-65.	1.0	2
111	Automatic geometric reasoning in structure and motion estimation. Pattern Recognition Letters, 2000, 21, 1105-1113.	2.6	2
112	Robustness and specificity in object detection. , 2004, , .		2
113	The Minimal Structure and Motion Problems with Missing Data for 1D Retina Vision. Journal of Mathematical Imaging and Vision, 2006, 26, 327-343.	0.8	2
114	Bayesian formulation of image patch matching using cross-correlation. , 2009, , .		2
115	Image Segmentation and Labeling Using Free-Form Semantic Annotation. , 2014, , .		2
116	Improving a Real-Time Object Detector with Compact Temporal Information. , 2017, , .		2
117	Global Trifocal Adjustment. Lecture Notes in Computer Science, 2019, , 287-298.	1.0	2
118	Efficient Real-Time Radial Distortion Correction for UAVs. , 2021, , .		2
119	Path Design and Control Algorithms for Articulated Mobile Robots. , 1998, , 390-396.		2
120	Transferring and Compressing Convolutional Neural Networks for Face Representations. Lecture Notes in Computer Science, 2016, , 20-29.	1.0	2
121	Linking Entities Across Images and Text. , 2015, , .		2
122	Homotopy Continuation for Sensor Networks Self-Calibration. , 2021, , .		2
123	Extension of Time-Difference-of-Arrival Self Calibration Solutions Using Robust Multilateration. , 2021, , .		2
124	3D Face Appearance Model. , 2006, , .		1
125	Global Optimization for One-Dimensional Structure and Motion Problems. SIAM Journal on Imaging Sciences, 2010, 3, 1075-1095.	1.3	1
126	Multi-camera Platform Calibration Using Multi-linear Constraints. , 2010, , .		1

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127	Bayesian Formulation of Image Patch Matching Using Cross-correlation. Journal of Mathematical Imaging and Vision, 2012, 43, 72-87.	0.8	1
128	Exploratory study of EEG burst characteristics in preterm infants. , 2013, 2013, 4295-8.		1
129	Registration and Merging Maps with Uncertainties. , 2018, , .		1
130	Generic Merging of Structure from Motion Maps with a Low Memory Footprint. , 2021, , .		1
131	Calibration and Absolute Pose Estimation of Trinocular Linear Camera Array for Smart City Applications. , 2021, , .		1
132	One-Dimensional Retinae Vision. , 2005, , 269-304.		1
133	Automated Interpretation of Cardiac Scintigrams. Lecture Notes in Computer Science, 2003, , 565-570.	1.0	1
134	Automated Interpretation of Ventilation-Perfusion Lung Scintigrams for the Diagnosis of Pulmonary Embolism Using Support Vector Machines. Lecture Notes in Computer Science, 2003, , 415-421.	1.0	1
135	Maximum Likelihood Estimates for Object Detection Using Multiple Detectors. Lecture Notes in Computer Science, 2006, , 658-666.	1.0	1
136	Shape Modeling by Optimising Description Length Using Gradients and Parameterisation Invariance. Springer Proceedings in Mathematics, 2012, , 51-91.	0.5	1
137	Minimal Solvers for Unsynchronized TDOA Sensor Network Calibration. Lecture Notes in Computer Science, 2014, , 95-110.	1.0	1
138	Visual Tracking of Box Jellyfish. Advances in Environmental Engineering and Green Technologies Book Series, 0, , 107-122.	0.3	1
139	Accurate Indoor Positioning Based on Learned Absolute and Relative Models. , 2021, , .		1
140	Title is missing!. Pattern Recognition Letters, 2001, 22, 1179.	2.6	0
141	Geometrical Computer Vision from Chasles to Today. Lecture Notes in Computer Science, 2005, , 182-183.	1.0	0
142	MDL patch correspondences on unlabeled images. , 2008, , .		0
143	Offset estimation for microphone localization using alternating projections. , 2015, , .		0
144	Improving the Detection of Relations Between Objects in an Image Using Textual Semantics. Lecture Notes in Computer Science, 2015, , 133-145.	1.0	0

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145	Minimal Solvers for Indoor UAV Positioning. , 2021, , .		0
146	Improved Object Detection and Pose Using Part-Based Models. Lecture Notes in Computer Science, 2013, , 396-407.	1.0	0
147	Collaborative Merging of Radio SLAM Maps in View of Crowd-sourced Data Acquisition and Big Data. , 2019, , .		0
148	Automatic detection of small areas of Gleason grade 5 in prostate tissue using CNN. , 2019, , .		0
149	Multiple Offsets Multilateration: A New Paradigm for Sensor Network Calibration with Unsynchronized Reference Nodes. , 2022, , .		0