

Aggelos K Katsaggelos

List of Publications by Year in descending order

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172
papers

5,318
citations

186209

28
h-index

102432

66
g-index

178
all docs

178
docs citations

178
times ranked

4591
citing authors

#	ARTICLE	IF	CITATIONS
1	Bayesian Compressive Sensing Using Laplace Priors. IEEE Transactions on Image Processing, 2010, 19, 53-63.	6.0	589
2	Video Super-Resolution With Convolutional Neural Networks. IEEE Transactions on Computational Imaging, 2016, 2, 109-122.	2.6	451
3	Using Deep Neural Networks for Inverse Problems in Imaging: Beyond Analytical Methods. IEEE Signal Processing Magazine, 2018, 35, 20-36.	4.6	407
4	Sparse Bayesian Methods for Low-Rank Matrix Estimation. IEEE Transactions on Signal Processing, 2012, 60, 3964-3977.	3.2	278
5	Variational Bayesian Super Resolution. IEEE Transactions on Image Processing, 2011, 20, 984-999.	6.0	212
6	Variational Bayesian Blind Deconvolution Using a Total Variation Prior. IEEE Transactions on Image Processing, 2009, 18, 12-26.	6.0	180
7	Blind Deconvolution Using a Variational Approach to Parameter, Image, and Blur Estimation. IEEE Transactions on Image Processing, 2006, 15, 3715-3727.	6.0	170
8	Automated Atrial Fibrillation Detection using a Hybrid CNN-LSTM Network on Imbalanced ECG Datasets. Biomedical Signal Processing and Control, 2021, 63, 102194.	3.5	158
9	Parameter Estimation in TV Image Restoration Using Variational Distribution Approximation. IEEE Transactions on Image Processing, 2008, 17, 326-339.	6.0	144
10	Content-aware resource allocation and packet scheduling for video transmission over wireless networks. IEEE Journal on Selected Areas in Communications, 2007, 25, 749-759.	9.7	129
11	Maximum a Posteriori Video Super-Resolution Using a New Multichannel Image Prior. IEEE Transactions on Image Processing, 2010, 19, 1451-1464.	6.0	122
12	Generative Adversarial Networks and Perceptual Losses for Video Super-Resolution. IEEE Transactions on Image Processing, 2019, 28, 3312-3327.	6.0	118
13	DeepCOVID-XR: An Artificial Intelligence Algorithm to Detect COVID-19 on Chest Radiographs Trained and Tested on a Large U.S. Clinical Data Set. Radiology, 2021, 299, E167-E176.	3.6	112
14	Bayesian Blind Deconvolution with General Sparse Image Priors. Lecture Notes in Computer Science, 2012, , 341-355.	1.0	97
15	Joint Source Adaptation and Resource Allocation for Multi-User Wireless Video Streaming. IEEE Transactions on Circuits and Systems for Video Technology, 2008, 18, 582-595.	5.6	96
16	Audio-Visual Biometrics. Proceedings of the IEEE, 2006, 94, 2025-2044.	16.4	92
17	Unequal Error Protection for Robust Streaming of Scalable Video Over Packet Lossy Networks. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 407-416.	5.6	75
18	Rapid alignment of nanotomography data using joint iterative reconstruction and reprojection. Scientific Reports, 2017, 7, 11818.	1.6	75

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19	Parameter estimation in bayesian high-resolution image reconstruction with multisensors. IEEE Transactions on Image Processing, 2003, 12, 1655-1667.	6.0	72
20	High spatio-temporal resolution video with compressed sensing. Optics Express, 2015, 23, 15992.	1.7	68
21	Total variation super resolution using a variational approach. , 2008, , .		67
22	Variational Bayesian Blind Image Deconvolution: A review. , 2015, 47, 116-127.		56
23	Automated Lung Sound Classification Using a Hybrid CNN-LSTM Network and Focal Loss Function. Sensors, 2022, 22, 1232.	2.1	55
24	Abnormal Event Detection from Surveillance Video by Dynamic Hierarchical Clustering. , 2007, , .		53
25	Construction of Incoherent Unit Norm Tight Frames With Application to Compressed Sensing. IEEE Transactions on Information Theory, 2014, 60, 2319-2330.	1.5	53
26	Cardiac magnetic resonance image-based classification of the risk of arrhythmias in post-myocardial infarction patients. Artificial Intelligence in Medicine, 2015, 64, 205-215.	3.8	47
27	Dynamics and heterogeneity of a fate determinant during transition towards cell differentiation. ELife, 2015, 4, .	2.8	41
28	Neuroimaging modality fusion in Alzheimer's classification using convolutional neural networks. PLoS ONE, 2019, 14, e0225759.	1.1	38
29	Innovative data reduction and visualization strategy for hyperspectral imaging datasets using t-SNE approach. Pure and Applied Chemistry, 2018, 90, 493-506.	0.9	36
30	Application-Centric Routing for Video Streaming Over MultiHop Wireless Networks. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 1721-1734.	5.6	35
31	Transfer learning for predicting conversion from mild cognitive impairment to dementia of Alzheimer's type based on a three-dimensional convolutional neural network. Neurobiology of Aging, 2021, 99, 53-64.	1.5	34
32	Optimized Bit Extraction Using Distortion Modeling in the Scalable Extension of H.264/AVC. IEEE Transactions on Image Processing, 2009, 18, 2022-2029.	6.0	33
33	Bayesian Super-Resolution image reconstruction using an L_1 prior. , 2009, , .		30
34	Detecting contextual anomalies of crowd motion in surveillance video. , 2009, , .		28
35	Learning from crowds with variational Gaussian processes. Pattern Recognition, 2019, 88, 298-311.	5.1	28
36	Variational Dirichlet Blur Kernel Estimation. IEEE Transactions on Image Processing, 2015, 24, 5127-5139.	6.0	26

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37	Review of content-aware resource allocation schemes for video streaming over wireless networks. <i>Wireless Communications and Mobile Computing</i> , 2007, 7, 131-142.	0.8	25
38	Variational Bayesian Methods For Multimedia Problems. <i>IEEE Transactions on Multimedia</i> , 2014, 16, 1000-1017.	5.2	25
39	Bayesian K-SVD Using Fast Variational Inference. <i>IEEE Transactions on Image Processing</i> , 2017, 26, 3344-3359.	6.0	25
40	Generative Adversarial Networks and Perceptual Losses for Video Super-Resolution. , 2018, , .		25
41	Spatially adaptive iterative algorithm for the restoration of astronomical images. <i>International Journal of Imaging Systems and Technology</i> , 1995, 6, 305-313.	2.7	24
42	A Logarithmic X-Ray Imaging Model for Baggage Inspection: Simulation and Object Detection. , 2017, , .		23
43	Learning from crowds in digital pathology using scalable variational Gaussian processes. <i>Scientific Reports</i> , 2021, 11, 11612.	1.6	22
44	Low-Complexity Tracking-Aware H.264 Video Compression for Transportation Surveillance. <i>IEEE Transactions on Circuits and Systems for Video Technology</i> , 2011, 21, 1378-1389.	5.6	21
45	Fast Bayesian blind deconvolution with Huber Super Gaussian priors. , 2017, 60, 122-133.		19
46	Computational Imaging for Cultural Heritage: Recent developments in spectral imaging, 3-D surface measurement, image relighting, and X-ray mapping. <i>IEEE Signal Processing Magazine</i> , 2016, 33, 130-138.	4.6	18
47	Nonlinear Unmixing of Hyperspectral Datasets for the Study of Painted Works of Art. <i>Angewandte Chemie</i> , 2018, 130, 11076-11080.	1.6	18
48	Development of a highly mobile and versatile large μ XRF scanner for in situ analyses of painted work of arts. <i>X-Ray Spectrometry</i> , 2021, 50, 263-271.	0.9	18
49	Fast bayesian compressive sensing using Laplace priors. , 2009, , .		16
50	Rapid reconstruction of highly undersampled, non-Cartesian real-time cine k -space data using a perceptual complex neural network (PCNN). <i>NMR in Biomedicine</i> , 2021, 34, e4405.	1.6	16
51	Blind color deconvolution, normalization, and classification of histological images using general super Gaussian priors and Bayesian inference. <i>Computer Methods and Programs in Biomedicine</i> , 2021, 211, 106453.	2.6	16
52	Using the Kullback-Leibler divergence to combine image priors in Super-Resolution image reconstruction. , 2010, , .		15
53	Scalable and efficient learning from crowds with Gaussian processes. <i>Information Fusion</i> , 2019, 52, 110-127.	11.7	15
54	A single video super-resolution GAN for multiple downsampling operators based on pseudo-inverse image formation models. , 2020, 104, 102801.		15

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55	Deep multi-view models for glitch classification. , 2017, , .		14
56	Nonlinear Unmixing of Hyperspectral Datasets for the Study of Painted Works of Art. Angewandte Chemie - International Edition, 2018, 57, 10910-10914.	7.2	14
57	A TV-based image processing framework for blind color deconvolution and classification of histological images. , 2020, 101, 102727.		14
58	Computational multifocal microscopy. Biomedical Optics Express, 2018, 9, 6477.	1.5	14
59	State-of-the-Art Deep Learning Methods on Electrocardiogram Data: Systematic Review. JMIR Medical Informatics, 2022, 10, e38454.	1.3	14
60	Geometric deep learning on brain shape predicts sex and age. Computerized Medical Imaging and Graphics, 2021, 91, 101939.	3.5	13
61	Automatic cardiac rhythm interpretation during resuscitation. Resuscitation, 2016, 102, 44-50.	1.3	12
62	Variational Bayesian Blind Color Deconvolution of Histopathological Images. IEEE Transactions on Image Processing, 2020, 29, 2026-2036.	6.0	12
63	Deep Gaussian processes for multiple instance learning: Application to CT intracranial hemorrhage detection. Computer Methods and Programs in Biomedicine, 2022, 219, 106783.	2.6	12
64	Bayesian compressive sensing of wavelet coefficients using multiscale Laplacian priors. , 2009, , .		11
65	Iterative image restoration using nonstationary priors. Applied Optics, 2013, 52, D102.	0.9	11
66	Robust Recovery of Temporally Smooth Signals From Under-Determined Multiple Measurements. IEEE Transactions on Signal Processing, 2015, 63, 1779-1791.	3.2	11
67	Neural Networks for Modeling Neural Spiking in S1 Cortex. Frontiers in Systems Neuroscience, 2019, 13, 13.	1.2	11
68	Lossless compression of images using logic minimization. , 0, , .		10
69	Low-rank matrix completion by variational sparse Bayesian learning. , 2011, , .		10
70	Real-time super-resolution for digital zooming using finite kernel-based edge orientation estimation and truncated image restoration. , 2013, , .		10
71	Bayesian Simultaneous Sparse Approximation With Smooth Signals. IEEE Transactions on Signal Processing, 2013, 61, 5716-5729.	3.2	10
72	Variational Bayesian causal connectivity analysis for fMRI. Frontiers in Neuroinformatics, 2014, 8, 45.	1.3	10

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73	Scalable Variational Gaussian Processes for Crowdsourcing: Glitch Detection in LIGO. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2022, 44, 1534-1551.	9.7	10
74	Frame Rate and Viseme Analysis for Multimedia Applications to Assist Speechreading. Journal of Signal Processing Systems, 1998, 20, 7-23.	1.0	9
75	Total Variation Image Restoration and Parameter Estimation using Variational Posterior Distribution Approximation. Proceedings International Conference on Image Processing, 2007, , .	0.0	9
76	Astronomical image restoration using variational methods and model combination. Statistical Methodology, 2012, 9, 19-31.	0.5	9
77	A multi-camera motion capture system for remote healthcare monitoring. , 2013, , .		9
78	Pigment Unmixing of Hyperspectral Images of Paintings Using Deep Neural Networks. , 2019, , .		9
79	Variational EM method for blur estimation using the spike-and-slab image prior. , 2019, 88, 116-129.		9
80	Guided Event Filtering: Synergy between Intensity Images and Neuromorphic Events for High Performance Imaging. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021, PP, 1-1.	9.7	9
81	Bayesian K-SVD for H and E blind color deconvolution. Applications to stain normalization, data augmentation and cancer classification. Computerized Medical Imaging and Graphics, 2022, 97, 102048.	3.5	9
82	Anxiety, Postâ€“COVID-19 Syndrome-Related Depression, and Suicidal Thoughts and Behaviors in COVID-19 Survivors: Cross-sectional Study. JMIR Formative Research, 2022, 6, e36656.	0.7	9
83	Super Resolution of Multispectral Images using â„“1 Image Models and Interband Correlations. Journal of Signal Processing Systems, 2011, 65, 509-523.	1.4	8
84	Single camera-based full depth map estimation using color shifting property of a multiple color-filter aperture. , 2012, , .		8
85	A game theoretic approach to video streaming over peer-to-peer networks. Signal Processing: Image Communication, 2012, 27, 545-554.	1.8	8
86	An automatic system for the comprehensive retrospective analysis of cardiac rhythms in resuscitation episodes. Resuscitation, 2018, 122, 6-12.	1.3	8
87	Generalized Gaussian Markov random field image restoration using variational distribution approximation. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	7
88	An Efficient Video Indexing and Retrieval Algorithm Using the Luminance Field Trajectory Modeling. IEEE Transactions on Circuits and Systems for Video Technology, 2009, 19, 1566-1570.	5.6	7
89	Image prior combination in super-resolution image registration & reconstruction. , 2010, , .		7
90	Video compressive sensing with on-chip programmable subsampling. , 2015, , .		7

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91	Rapid Reconstruction of Four-dimensional MR Angiography of the Thoracic Aorta Using a Convolutional Neural Network. <i>Radiology: Cardiothoracic Imaging</i> , 2020, 2, e190205.	0.9	7
92	Deep learning approaches to inverse problems in imaging: Past, present and future. , 2021, 119, 103285.		7
93	SPECT IMAGE RECONSTRUCTION USING COMPOUND PRIOR MODELS. <i>International Journal of Pattern Recognition and Artificial Intelligence</i> , 2002, 16, 317-330.	0.7	6
94	High-resolution image reconstruction of low-resolution DCT-based compressed images. , 2002, , .		6
95	Feature space video stream consistency estimation for dynamic stream weighting in audio-visual speech recognition. , 2008, , .		6
96	Forest hashing: Expediting large scale image retrieval. , 2013, , .		6
97	Bayesian analysis of depth resolved OCT attenuation coefficients. <i>Scientific Reports</i> , 2021, 11, 2263.	1.6	6
98	Interpretation of Brain Morphology in Association to Alzheimer's Disease Dementia Classification Using Graph Convolutional Networks on Triangulated Meshes. <i>Lecture Notes in Computer Science</i> , 2020, 12474, 95-107.	1.0	6
99	A Learning-Based Physical Model of Charge Transport in Room-Temperature Semiconductor Detectors. <i>IEEE Transactions on Nuclear Science</i> , 2022, 69, 2-16.	1.2	6
100	Parameter estimation in Bayesian reconstruction of SPECT images: An aid in nuclear medicine diagnosis. <i>International Journal of Imaging Systems and Technology</i> , 2004, 14, 21-27.	2.7	5
101	Fast Video Shot Retrieval with Luminance Field Trace Indexing and Geometry Matching. , 2006, , .		5
102	A phone-viseme dynamic Bayesian network for audio-visual automatic speech recognition. , 2008, , .		5
103	Maximum a posteriori super-resolution of compressed video using a new multichannel image prior. , 2009, , .		5
104	Application-Aware Approach to Compression and Transmission of H.264 Encoded Video for Automated and Centralized Transportation Surveillance. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2013, 14, 2002-2007.	4.7	5
105	Combining Poisson singular integral and total variation prior models in image restoration. <i>Signal Processing</i> , 2014, 103, 296-308.	2.1	5
106	A novel visualization tool for art history and conservation: Automated colorization of black and white archival photographs of works of art. <i>Studies in Conservation</i> , 2014, 59, 125-135.	0.6	5
107	Multiframe blind deconvolution of passive millimeter wave images using variational dirichlet blur kernel estimation. , 2016, , .		5
108	A bayesian multi-frame image super-resolution algorithm using the Gaussian Information Filter. , 2017, , .		5

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109	CoCross: An ICT Platform Enabling Monitoring Recording and Fusion of Clinical Information Chest Sounds and Imaging of COVID-19 ICU Patients. Healthcare (Switzerland), 2022, 10, 276.	1.0	5
110	A rate-distortion optimal coding alternative to matching pursuit. , 2002, , .		4
111	From Global to Local Bayesian Parameter Estimation in Image Restoration using Variational Distribution Approximations. Proceedings International Conference on Image Processing, 2007, , .	0.0	4
112	L1 prior majorization in Bayesian image restoration. , 2009, , .		4
113	Image super-resolution from compressed sensing observations. , 2015, , .		4
114	Sampling optimization for on-chip compressive video. , 2015, , .		4
115	Blind Color Deconvolution of Histopathological Images Using a Variational Bayesian Approach. , 2018, , .		4
116	Automatic Classification of A-Lines in Intravascular OCT Images Using Deep Learning and Estimation of Attenuation Coefficients. Applied Sciences (Switzerland), 2021, 11, 7412.	1.3	4
117	Reconstruction of high-resolution image frames from a sequence of low-resolution and compressed observations. , 2002, , .		3
118	Parameter Estimation in Bayesian Reconstruction of Multispectral Images using Super Resolution Techniques. , 2006, , .		3
119	A Kd-Tree Based Dynamic Indexing Scheme for Video Retrieval and Geometry Matching. , 2008, , .		3
120	Local Bayesian image restoration using variational methods and Gamma-Normal distributions. , 2009, , .		3
121	A novel iterative image restoration algorithm using nonstationary image priors. , 2011, , .		3
122	Binocular video object tracking with fast disparity estimation. , 2013, , .		3
123	Directionally adaptive cubic-spline interpolation using optimized interpolation kernel and edge orientation for mobile digital zoom system. , 2014, , .		3
124	Automated Recovery of Compressedly Observed Sparse Signals From Smooth Background. IEEE Signal Processing Letters, 2014, 21, 1012-1016.	2.1	3
125	Variational Gaussian process for sensor fusion. , 2015, , .		3
126	Joint Data Filtering and Labeling Using Gaussian Processes and Alternating Direction Method of Multipliers. IEEE Transactions on Image Processing, 2016, 25, 3059-3072.	6.0	3

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127	Passive millimeter wave image classification with large scale Gaussian processes. , 2017, , .		3
128	Shape-from-Shifting: Uncalibrated Photometric Stereo with a Mobile Device. , 2017, , .		3
129	Image super-resolution for outdoor digital forensics. Usability and legal aspects. Computers in Industry, 2018, 98, 34-47.	5.7	3
130	Temporal capsule networks for video motion estimation and error concealment. Signal, Image and Video Processing, 2020, 14, 1369-1377.	1.7	3
131	An Adaptive Video Acquisition Scheme for Object Tracking and Its Performance Optimization. IEEE Sensors Journal, 2021, 21, 17227-17243.	2.4	3
132	The Prevalence of Psychotic Symptoms, Violent Ideation, and Disruptive Behavior in a Population With SARS-CoV-2 Infection: Preliminary Study. JMIR Formative Research, 2022, 6, e36444.	0.7	3
133	DNA Microarray Image Intensity Extraction using Eigenspots. , 2007, , .		2
134	A video retrieval algorithm using random projections. , 2009, , .		2
135	A game theoretic approach to video streaming over peer-to-peer networks. , 2010, , .		2
136	Variational Bayesian inference image restoration using a product of total variation-like image priors. , 2010, , .		2
137	Bayesian TV denoising of SAR images. , 2011, , .		2
138	Video retrieval using sparse Bayesian reconstruction. , 2011, , .		2
139	Virtual touring: A Content Based Image Retrieval application. , 2013, , .		2
140	Video completion using block matching for video stabilization. , 2014, , .		2
141	PMMW image super resolution from compressed sensing observations. , 2015, , .		2
142	Compressed sensing super resolution of color images. , 2016, , .		2
143	Multi-model robust error correction for face recognition. , 2016, , .		2
144	Spatially Adaptive Losses for Video Super-resolution with GANs. , 2019, , .		2

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145	Variational Bayes Color Deconvolution with a Total Variation Prior. , 2019, , .		2
146	Semantic Prior Based Generative Adversarial Network for Video Super-Resolution. , 2019, , .		2
147	Variational Bayesian Pansharpener with Super-Gaussian Sparse Image Priors. Sensors, 2020, 20, 5308.	2.1	2
148	Super Gaussian Priors for Blind Color Deconvolution of Histological Images. , 2020, , .		2
149	Labeling Noncontrast Head CT Reports for Common Findings Using Natural Language Processing. American Journal of Neuroradiology, 2022, 43, 721-726.	1.2	2
150	Editorial: Introduction to the Special Issue on Deep Learning for High-Dimensional Sensing. IEEE Journal on Selected Topics in Signal Processing, 2022, 16, 603-607.	7.3	2
151	Resource Allocation for Downlink Multiuser Video Transmission Over Wireless Lossy Networks. , 2007, , .		1
152	Fast total variation image restoration with parameter estimation using bayesian inference. , 2010, , .		1
153	Compressive sensing-based image denoising using adaptive multiple sampling and optimal error tolerance. , 2013, , .		1
154	Learning filters in Gaussian process classification problems. , 2014, , .		1
155	Bayesian logistic regression with sparse general representation prior for multispectral image classification. , 2016, , .		1
156	Classification of multiple annotator data using variational Gaussian process inference. , 2016, , .		1
157	Parameter estimation in spike and slab variational inference for blind image deconvolution. , 2017, , .		1
158	Multiple-Degradation Video Super-Resolution with Direct Inversion of the Low-Resolution Formation Model. , 2019, , .		1
159	A Hybrid Object-Oriented Very Low Bit Rate Video Codec. Journal of Signal Processing Systems, 1997, 17, 137-161.	1.0	0
160	Detection and removal of anomalies in digitized animation film. International Journal of Imaging Systems and Technology, 1998, 9, 283-293.	2.7	0
161	Joint rate control and scheduling for wireless uplink video streaming. Journal of Zhejiang University: Science A, 2006, 7, 801-810.	1.3	0
162	Robust Video Retrieval with Luminance Field Trace Indexing and Geometry Matching. , 2007, , .		0

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163	Vector quantization with memory and multi-labeling for isolated video-only automatic speech recognition. , 2008, , .		0
164	Two-dimensional channel coding for scalable H.264/AVC video. , 2009, , .		0
165	Video Activity Recognition by Luminance Differential Trajectory and Aligned Projection Distance. Handbook of Statistics, 2013, 31, 300-325.	0.4	0
166	Variational Gaussian process for missing label crowdsourcing classification problems. , 2016, , .		0
167	Greedy Bayesian double sparsity dictionary learning. , 2017, , .		0
168	A Novel OCT Design for Cultural Heritage Applications. Microscopy and Microanalysis, 2018, 24, 2142-2143.	0.2	0
169	Probabilistic Matrix Completion for Image Phase Retrieval. , 2018, , .		0
170	Direct Estimation of Weights and Efficient Training of Deep Neural Networks without SGD. , 2019, , .		0
171	SUPER-RESOLUTION OF MULTISPECTRAL IMAGES. , 2007, , .		0
172	Reconstruction of Resting State FMRI Using LSTM Variational Auto-Encoder on Subcortical Surface to Detect Epilepsy. , 2022, , .		0