Alfred O Hero

List of Publications by Year
in descending order

162 papers	4,626 citations	136950 32 h-index	118850 62 g-index
163 all docs	163 docs citations	163 times ranked	4819 citing authors

#	Article	IF	Citations
1	Fundamental Limits of Deep Graph Convolutional Networks for Graph Classification. IEEE Transactions on Information Theory, 2022, 68, 3218-3233.	2.4	1
2	Resolution Limits of Non-Adaptive 20 Questions Search for Multiple Targets. IEEE Transactions on Information Theory, 2022, 68, 4964-4982.	2.4	3
3	Second-Order Asymptotically Optimal Outlier Hypothesis Testing. IEEE Transactions on Information Theory, 2022, 68, 3585-3607.	2.4	3
4	RAILS: A Robust Adversarial Immune-Inspired Learning System. IEEE Access, 2022, 10, 22061-22078.	4.2	2
5	Predicting Solar Flares Using CNN and LSTM on Two Solar Cycles of Active Region Data. Astrophysical Journal, 2022, 931, 163.	4.5	23
6	Robust Distributed Fixed-Time Economic Dispatch Under Time-Varying Topology. , 2021, 5, 1183-1188.		17
7	Space-Time Adaptive Detection at Low Sample Support. IEEE Transactions on Signal Processing, 2021, 69, 2939-2954.	5.3	6
8	Resolution Limits for the Noisy Non-Adaptive 20 Questions Problem. IEEE Transactions on Information Theory, 2021, 67, 2055-2073.	2.4	8
9	A data value metric for quantifying information content and utility. Journal of Big Data, 2021, 8, 82.	11.0	8
10	Resolution Limits of 20 Questions Search Strategies for Moving Targets. , 2021, , .		1
11	Achievable Resolution Limits for the Noisy Adaptive 20 Questions Problem. , 2021, , .		3
12	Resolution Limits of Non-Adaptive 20 Questions Estimation for Multiple Targets. , 2021, , .		0
13	Beyond optimization—supervised learning applications in relativistic laser-plasma experiments. Physics of Plasmas, 2021, 28, .	1.9	6
14	Adaptive Multi-Channel Event Segmentation and Feature Extraction for Monitoring Health Outcomes. IEEE Transactions on Biomedical Engineering, 2021, 68, 2377-2388.	4.2	4
15	Ensemble Estimation of Generalized Mutual Information With Applications to Genomics. IEEE Transactions on Information Theory, 2021, 67, 5963-5996.	2.4	1
16	Assessment of the Feasibility of Using Noninvasive Wearable Biometric Monitoring Sensors to Detect Influenza and the Common Cold Before Symptom Onset. JAMA Network Open, 2021, 4, e2128534.	5.9	25
17	Multimodal Data Fusion in High-Dimensional Heterogeneous Datasets Via Generative Models. IEEE Transactions on Signal Processing, 2021, 69, 5175-5188.	5.3	7
18	A deep learning architecture for metabolic pathway prediction. Bioinformatics, 2020, 36, 2547-2553.	4.1	72

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19	Resolution Limits of Non-Adaptive Querying for Noisy 20 Questions Estimation. , 2020, , .		2
20	The Power of Graph Convolutional Networks to Distinguish Random Graph Models. , 2020, , .		2
21	A Primer on Zeroth-Order Optimization in Signal Processing and Machine Learning: Principals, Recent Advances, and Applications. IEEE Signal Processing Magazine, 2020, 37, 43-54.	5.6	55
22	Numerically Stable Binary Gradient Coding. , 2020, , .		12
23	Expectation-propagation for weak radionuclide identification at radiation portal monitors. Scientific Reports, 2020, 10, 6811.	3.3	4
24	Learning to Bound the Multi-Class Bayes Error. IEEE Transactions on Signal Processing, 2020, 68, 3793-3807.	5.3	4
25	Solar Flare Intensity Prediction With Machine Learning Models. Space Weather, 2020, 18, e2020SW002440.	3.7	27
26	Identifying Solar Flare Precursors Using Time Series of SDO/HMI Images and SHARP Parameters. Space Weather, 2019, 17, 1404-1426.	3.7	61
27	Feature Selection for Mutlti-labeled Variables via Dependency Maximization. , 2019, , .		5
28	Scalable Mutual Information Estimation Using Dependence Graphs. , 2019, , .		26
29	A Hierarchical Bayesian Approach to Neutron Spectrum Unfolding With Organic Scintillators. IEEE Transactions on Nuclear Science, 2019, 66, 2265-2274.	2.0	13
30	Exponential Strong Converse for Successive Refinement with Causal Decoder Side Information. Entropy, 2019, 21, 410.	2.2	0
31	Identifying Influential Links for Event Propagation on Twitter: A Network of Networks Approach. IEEE Transactions on Signal and Information Processing Over Networks, 2019, 5, 139-151.	2.8	4
32	Part-Level Convolutional Neural Networks for Pedestrian Detection Using Saliency and Boundary Box Alignment. IEEE Access, 2019, 7, 23027-23037.	4.2	10
33	Geometric Estimation of Multivariate Dependency. Entropy, 2019, 21, 787.	2.2	5
34	Convergence Rates for Empirical Estimation of Binary Classification Bounds. Entropy, 2019, 21, 1144.	2.2	2
35	Direct Estimation of Density Functionals Using a Polynomial Basis. IEEE Transactions on Signal Processing, 2018, 66, 558-572.	5.3	12
36	Unequal Error Protection Querying Policies for the Noisy 20 Questions Problem. IEEE Transactions on Information Theory, 2018, 64, 1105-1131.	2.4	12

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37	Multimodal Event Detection in Twitter Hashtag Networks. Journal of Signal Processing Systems, 2018, 90, 185-200.	2.1	16
38	Multi-class Bayes error estimation with a global minimal spanning tree. , 2018, , .		2
39	Fundamental Limits on Data Acquisition: Trade-offs Between Sample Complexity and Query Difficulty. , 2018, , .		6
40	Trade-offs Between Query Difficulty and Sample Complexity in Crowdsourced Data Acquisition. , 2018, , .		1
41	Ensemble Estimation of Information Divergence â€. Entropy, 2018, 20, 560.	2.2	14
42	A Dimension-Independent Discriminant Between Distributions. , 2018, , .		3
43	Genome Architecture Mediates Transcriptional Control of Human Myogenic Reprogramming. IScience, 2018, 6, 232-246.	4.1	19
44	Multi-Functional Sensing for Swarm Robots Using Time Sequence Classification: HoverBot, an Example. Frontiers in Robotics and AI, 2018, 5, 55.	3.2	8
45	Quickest Detection for Changes in Maximal kNN Coherence of Random Matrices. IEEE Transactions on Signal Processing, 2018, 66, 4490-4503.	5.3	8
46	Phase Transitions and a Model Order Selection Criterion for Spectral Graph Clustering. IEEE Transactions on Signal Processing, 2018, 66, 3407-3420.	5.3	6
47	Quantum-inspired computational imaging. Science, 2018, 361, .	12.6	134
48	Sequential Maximum Margin Classifiers for Partially Labeled Data. , 2018, , .		0
49	The Three-Terminal Interactive Lossy Source Coding Problem. IEEE Transactions on Information Theory, 2017, 63, 532-562.	2.4	7
50	Nasopharyngeal Protein Biomarkers of Acute Respiratory Virus Infection. EBioMedicine, 2017, 17, 172-181.	6.1	17
51	Measure-Transformed Quasi-Maximum Likelihood Estimation. IEEE Transactions on Signal Processing, 2017, 65, 748-763.	5.3	15
52	Learning to Classify With Possible Sensor Failures. IEEE Transactions on Signal Processing, 2017, 65, 836-849.	5.3	4
53	Direct estimation of information divergence using nearest neighbor ratios. , 2017, , .		17
54	Ensemble estimation of mutual information. , 2017, , .		19

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55	Multilayer Spectral Graph Clustering via Convex Layer Aggregation: Theory and Algorithms. IEEE Transactions on Signal and Information Processing Over Networks, 2017, 3, 553-567.	2.8	31
56	Similarity Function Tracking Using Pairwise Comparisons. IEEE Transactions on Signal Processing, 2017, 65, 5635-5648.	5.3	1
57	AMOS: An automated model order selection algorithm for spectral graph clustering. , 2017, , .		1
58	Part-level fully convolutional networks for pedestrian detection. , 2017, , .		3
59	Two-Stage Sampling, Prediction and Adaptive Regression via Correlation Screening. IEEE Transactions on Information Theory, 2017, 63, 698-714.	2.4	5
60	Robust Spectral Unmixing of Sparse Multispectral Lidar Waveforms Using Gamma Markov Random Fields. IEEE Transactions on Computational Imaging, 2017, 3, 658-670.	4.4	30
61	Information theoretic structure learning with confidence. , 2017, , .		9
62	Bounds on Variance for Unimodal Distributions. IEEE Transactions on Information Theory, 2017, 63, 6936-6949.	2.4	15
63	Image patch analysis of sunspots and active regions. Journal of Space Weather and Space Climate, 2016, 6, A2.	3.3	5
64	Multi-centrality graph spectral decompositions and their application to cyber intrusion detection. , 2016, , .		20
65	Dynamic metric learning from pairwise comparisons. , 2016, , .		2
66	Image patch analysis of sunspots and active regions. Journal of Space Weather and Space Climate, 2016, 6, A3.	3.3	6
67	Shortest path through random points. Annals of Applied Probability, 2016, 26, .	1.3	8
68	The intrinsic value of HFO features as a biomarker of epileptic activity. , 2016, 2016, 6290-6294.		7
69	Unequal error protection coding approaches to the noisy 20 questions problem. , 2016, , .		1
70	Improving convergence of divergence functional ensemble estimators. , 2016, , .		13
71	Analysis of a privacy-preserving PCA algorithm using random matrix theory. , 2016, , .		6
72	The Ontology of Biological and Clinical Statistics (OBCS) for standardized and reproducible statistical analysis. Journal of Biomedical Semantics, 2016, 7, 53.	1.6	18

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73	Multilayer spectral graph clustering via convex layer aggregation. , 2016, , .		2
74	An individualized predictor of health and disease using paired reference and target samples. BMC Bioinformatics, 2016, 17, 47.	2.6	49
75	Empirically Estimable Classification Bounds Based on a Nonparametric Divergence Measure. IEEE Transactions on Signal Processing, 2016, 64, 580-591.	5.3	55
76	A Genomic Signature of Influenza Infection Shows Potential for Presymptomatic Detection, Guiding Early Therapy, and Monitoring Clinical Responses. Open Forum Infectious Diseases, 2016, 3, ofw007.	0.9	30
77	A Survey of Stochastic Simulation and Optimization Methods in Signal Processing. IEEE Journal on Selected Topics in Signal Processing, 2016, 10, 224-241.	10.8	93
78	A Dictionary Approach to Electron Backscatter Diffraction Indexing. Microscopy and Microanalysis, 2015, 21, 739-752.	0.4	131
79	Robust linear spectral unmixing using outlier detection. , 2015, , .		2
80	Empirical Non-Parametric Estimation of the Fisher Information. IEEE Signal Processing Letters, 2015, 22, 988-992.	3.6	33
81	Multimodal factor analysis. , 2015, , .		2
82	Robust Kronecker Product PCA for Spatio-Temporal Covariance Estimation. IEEE Transactions on Signal Processing, 2015, 63, 6368-6378.	5.3	24
83	Meta learning of bounds on the Bayes classifier error. , 2015, , .		5
84	Phase transitions in spectral community detection of large noisy networks. , 2015, , .		0
85	Universal phase transition in community detectability under a stochastic block model. Physical Review E, 2015, 91, 032804.	2.1	17
86	Performance Guarantees for Adaptive Estimation of Sparse Signals. IEEE Transactions on Information Theory, 2015, 61, 2043-2059.	2.4	3
87	On Decentralized Estimation With Active Queries. IEEE Transactions on Signal Processing, 2015, 63, 2610-2622.	5.3	21
88	Deep Community Detection. IEEE Transactions on Signal Processing, 2015, 63, 5706-5719.	5.3	37
89	Phase Transitions in Spectral Community Detection. IEEE Transactions on Signal Processing, 2015, 63, 4339-4347.	5.3	25
90	Information extraction from large multi-layer social networks. , 2015, , .		7

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91	Robust Linear Spectral Unmixing Using Anomaly Detection. IEEE Transactions on Computational Imaging, 2015, 1, 74-85.	4.4	41
92	Assessing and safeguarding network resilience to nodal attacks. IEEE Communications Magazine, 2014, 52, 138-143.	6.1	63
93	Robust spectral unmixing for anomaly detection. , 2014, , .		11
94	Nonlinear Unmixing of Hyperspectral Images: Models and Algorithms. IEEE Signal Processing Magazine, 2014, 31, 82-94.	5.6	362
95	Local Fiedler vector centrality for detection of deep and overlapping communities in networks. , 2014, , .		25
96	Collaborative 20 Questions for Target Localization. IEEE Transactions on Information Theory, 2014, 60, 2233-2252.	2.4	43
97	Ensemble estimation of multivariate f-divergence. , 2014, , .		21
98	Computerized analysis of the 12-lead electrocardiogram to identify epicardial ventricular tachycardia exit sites. Heart Rhythm, 2014, 11, 1966-1973.	0.7	9
99	Social Collaborative Retrieval. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 680-689.	10.8	8
100	Marginal Likelihoods for Distributed Parameter Estimation of Gaussian Graphical Models. IEEE Transactions on Signal Processing, 2014, 62, 5425-5438.	5.3	13
101	Dynamic Stochastic Blockmodels for Time-Evolving Social Networks. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 552-562.	10.8	166
102	Estimating epistemic and aleatory uncertainties during hydrologic modeling: An information theoretic approach. Water Resources Research, 2013, 49, 2253-2273.	4.2	87
103	Blind collaborative 20 questions for target localization. , 2013, , .		0
104	A sparse multi-class classifier for biomarker screening. , 2013, , .		0
105	A performance guarantee for adaptive estimation of sparse signals. , 2013, , .		2
106	On Convergence of Kronecker Graphical Lasso Algorithms. IEEE Transactions on Signal Processing, 2013, 61, 1743-1755.	5.3	41
107	Multistage Adaptive Estimation of Sparse Signals. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 783-796.	10.8	16
108	Ensemble Estimators for Multivariate Entropy Estimation. IEEE Transactions on Information Theory, 2013, 59, 4374-4388.	2.4	36

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109	Covariance Estimation in High Dimensions Via Kronecker Product Expansions. IEEE Transactions on Signal Processing, 2013, 61, 5347-5360.	5.3	66
110	Node removal vulnerability of the largest component of a network. , 2013, , .		14
111	Adaptive search for sparse dynamic targets. , 2013, , .		1
112	Spatio-temporal analysis of Gaussian WSS processes via complex correlation and partial correlation screening. , 2013, , .		2
113	A collaborative 20 questions model for target search with human-machine interaction. , 2013, , .		2
114	Adaptive spectrum sensing and estimation. , 2013, , .		4
115	Low separation rank covariance estimation using Kronecker product expansions. , 2013, , .		7
116	A Host Transcriptional Signature for Presymptomatic Detection of Infection in Humans Exposed to Influenza H1N1 or H3N2. PLoS ONE, 2013, 8, e52198.	2.5	157
117	Kronecker graphical lasso. , 2012, , .		3
118	On Measure Transformed Canonical Correlation Analysis. IEEE Transactions on Signal Processing, 2012, 60, 4570-4585.	5.3	26
119	Hyperspectral Image Unmixing Using a Multiresolution Sticky HDP. IEEE Transactions on Signal Processing, 2012, 60, 1656-1671.	5.3	20
120	Measure transformed canonical correlation analysis with application to financial data. , 2012, , .		8
121	Hub Discovery in Partial Correlation Graphs. IEEE Transactions on Information Theory, 2012, 58, 6064-6078.	2.4	61
122	Recursive $ell_{1,infty}$ Group Lasso. IEEE Transactions on Signal Processing, 2012, 60, 3978-3987.	5.3	27
123	Locally-adaptive similarity metric for deformable medical image registration. , 2012, 2012, 728-731.		10
124	Multistage adaptive estimation of sparse signals. , 2012, , .		10
125	Distributed Covariance Estimation in Gaussian Graphical Models. IEEE Transactions on Signal Processing, 2012, 60, 211-220.	5.3	31
126	Large-Scale Correlation Screening. Journal of the American Statistical Association, 2011, 106, 1540-1552.	3.1	54

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127	Two-Stage Multiscale Search for Sparse Targets. IEEE Transactions on Signal Processing, 2011, 59, 2331-2341.	5.3	17
128	Misaligned Principal Components Analysis: Application to gene expression time series analysis. , 2011, , .		0
129	Efficient learning of sparse, distributed, convolutional feature representations for object recognition. , 2011, , .		33
130	Sensor Management: Past, Present, and Future. IEEE Sensors Journal, 2011, 11, 3064-3075.	4.7	179
131	Immunophenotypic signatures of benign and dysplastic granulopoiesis by cytomic profiling. Cytometry Part B - Clinical Cytometry, 2011, 80B, 282-290.	1.5	8
132	Temporal Dynamics of Host Molecular Responses Differentiate Symptomatic and Asymptomatic Influenza A Infection. PLoS Genetics, 2011, 7, e1002234.	3.5	173
133	Performance bounds for sparse parametric covariance estimation in Gaussian models. , 2011, , .		1
134	Construction of Abdominal Probabilistic Atlases and Their Value in Segmentation of Normal Organs in Abdominal CT Scans. IEICE Transactions on Information and Systems, 2010, E93-D, 2291-2301.	0.7	5
135	Covariance Estimation in Decomposable Gaussian Graphical Models. IEEE Transactions on Signal Processing, 2010, 58, 1482-1492.	5.3	33
136	On Local Intrinsic Dimension Estimation and Its Applications. IEEE Transactions on Signal Processing, 2010, 58, 650-663.	5.3	63
137	Shrinkage Algorithms for MMSE Covariance Estimation. IEEE Transactions on Signal Processing, 2010, 58, 5016-5029.	5.3	346
138	Distributed covariance estimation in Gaussian graphical models. , 2010, , .		0
139	Order-preserving factor discovery from misaligned data. , 2010, , .		0
140	Principal component analysis in decomposable Gaussian graphical models. , 2009, , .		6
141	Practical recipes for the model order reduction, dynamical simulation and compressive sampling of large-scale open quantum systems. New Journal of Physics, 2009, 11, 065002.	2.9	2
142	Information Preserving Component Analysis: Data Projections for Flow Cytometry Analysis. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 148-158.	10.8	17
143	Gene Expression Signatures Diagnose Influenza and Other Symptomatic Respiratory Viral Infections in Humans. Cell Host and Microbe, 2009, 6, 207-217.	11.0	408
144	A multidimensional shrinkage-thresholding operator. , 2009, , .		18

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145	Decomposable Principal Component Analysis. IEEE Transactions on Signal Processing, 2009, 57, 4369-4377.	5.3	41
146	Hoxa9 and Meis1 Bind Highly Conserved Elements Near Targets Regulated in Leukemia Cells.. Blood, 2008, 112, 3362-3362.	1.4	0
147	Fiber Tract Clustering on Manifolds With Dual Rooted-Graphs. , 2007, , .		28
148	Training in multiple-antenna Rician fading wireless channels with deterministic specular component. IEEE Transactions on Wireless Communications, 2007, 6, 110-119.	9.2	7
149	An Information-Based Approach to Sensor Management in Large Dynamic Networks. Proceedings of the IEEE, 2007, 95, 978-999.	21.3	106
150	Detection of the Number of Signals Using the Benjamini-Hochberg Procedure. IEEE Transactions on Signal Processing, 2007, 55, 2497-2508.	5.3	57
151	Network sensor management for tracking and localization. , 2007, , .		9
152	Optimal Sequential Energy Allocation for Inverse Problems. IEEE Journal on Selected Topics in Signal Processing, 2007, 1, 67-78.	10.8	8
153	On Tests for Global Maximum of the Log-Likelihood Function. IEEE Transactions on Information Theory, 2007, 53, 2510-2525.	2.4	12
154	USING DIRECTED INFORMATION TO BUILD BIOLOGICALLY RELEVANT INFLUENCE NETWORKS. , 2007, , .		11
155	Manifold embedding for understanding mechanisms of transcriptional regulation. , 2006, , .		0
156	Bayesian hierarchical model for estimating gene association network from microarray data. , 2006, , .		0
157	Image registration methods in high-dimensional space. International Journal of Imaging Systems and Technology, 2006, 16, 130-145.	4.1	32
158	Sparse Image Reconstruction using Sparse Priors. , 2006, , .		16
159	Image matching using alpha-entropy measures and entropic graphs. Signal Processing, 2005, 85, 277-296.	3.7	57
160	Identifying differentially expressed genes from probe level intensities in longitudinal affymetrix microarray experiments. , 2005, , .		0
161	Word Spotting in Bitmapped Fax Documents. Information Retrieval, 2000, 2, 207-226.	2.0	9
162	Recurrent neural networks enable design of multifunctional synthetic human gut microbiome dynamics. ELife, 0, 11, .	6.0	18