

Alfred O Hero

List of Publications by Year in descending order

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Version: 2024-02-01

162
papers

4,626
citations

136885

32
h-index

118793

62
g-index

163
all docs

163
docs citations

163
times ranked

4819
citing authors

#	ARTICLE	IF	CITATIONS
1	Gene Expression Signatures Diagnose Influenza and Other Symptomatic Respiratory Viral Infections in Humans. <i>Cell Host and Microbe</i> , 2009, 6, 207-217.	5.1	408
2	Nonlinear Unmixing of Hyperspectral Images: Models and Algorithms. <i>IEEE Signal Processing Magazine</i> , 2014, 31, 82-94.	4.6	362
3	Shrinkage Algorithms for MMSE Covariance Estimation. <i>IEEE Transactions on Signal Processing</i> , 2010, 58, 5016-5029.	3.2	346
4	Sensor Management: Past, Present, and Future. <i>IEEE Sensors Journal</i> , 2011, 11, 3064-3075.	2.4	179
5	Temporal Dynamics of Host Molecular Responses Differentiate Symptomatic and Asymptomatic Influenza A Infection. <i>PLoS Genetics</i> , 2011, 7, e1002234.	1.5	173
6	Dynamic Stochastic Blockmodels for Time-Evolving Social Networks. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2014, 8, 552-562.	7.3	166
7	A Host Transcriptional Signature for Presymptomatic Detection of Infection in Humans Exposed to Influenza H1N1 or H3N2. <i>PLoS ONE</i> , 2013, 8, e52198.	1.1	157
8	Quantum-inspired computational imaging. <i>Science</i> , 2018, 361, .	6.0	134
9	A Dictionary Approach to Electron Backscatter Diffraction Indexing. <i>Microscopy and Microanalysis</i> , 2015, 21, 739-752.	0.2	131
10	An Information-Based Approach to Sensor Management in Large Dynamic Networks. <i>Proceedings of the IEEE</i> , 2007, 95, 978-999.	16.4	106
11	A Survey of Stochastic Simulation and Optimization Methods in Signal Processing. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2016, 10, 224-241.	7.3	93
12	Estimating epistemic and aleatory uncertainties during hydrologic modeling: An information theoretic approach. <i>Water Resources Research</i> , 2013, 49, 2253-2273.	1.7	87
13	A deep learning architecture for metabolic pathway prediction. <i>Bioinformatics</i> , 2020, 36, 2547-2553.	1.8	72
14	Covariance Estimation in High Dimensions Via Kronecker Product Expansions. <i>IEEE Transactions on Signal Processing</i> , 2013, 61, 5347-5360.	3.2	66
15	On Local Intrinsic Dimension Estimation and Its Applications. <i>IEEE Transactions on Signal Processing</i> , 2010, 58, 650-663.	3.2	63
16	Assessing and safeguarding network resilience to nodal attacks. <i>IEEE Communications Magazine</i> , 2014, 52, 138-143.	4.9	63
17	Hub Discovery in Partial Correlation Graphs. <i>IEEE Transactions on Information Theory</i> , 2012, 58, 6064-6078.	1.5	61
18	Identifying Solar Flare Precursors Using Time Series of SDO/HMI Images and SHARP Parameters. <i>Space Weather</i> , 2019, 17, 1404-1426.	1.3	61

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19	Image matching using alpha-entropy measures and entropic graphs. <i>Signal Processing</i> , 2005, 85, 277-296.	2.1	57
20	Detection of the Number of Signals Using the Benjamini-Hochberg Procedure. <i>IEEE Transactions on Signal Processing</i> , 2007, 55, 2497-2508.	3.2	57
21	Empirically Estimable Classification Bounds Based on a Nonparametric Divergence Measure. <i>IEEE Transactions on Signal Processing</i> , 2016, 64, 580-591.	3.2	55
22	A Primer on Zeroth-Order Optimization in Signal Processing and Machine Learning: Principals, Recent Advances, and Applications. <i>IEEE Signal Processing Magazine</i> , 2020, 37, 43-54.	4.6	55
23	Large-Scale Correlation Screening. <i>Journal of the American Statistical Association</i> , 2011, 106, 1540-1552.	1.8	54
24	An individualized predictor of health and disease using paired reference and target samples. <i>BMC Bioinformatics</i> , 2016, 17, 47.	1.2	49
25	Collaborative 20 Questions for Target Localization. <i>IEEE Transactions on Information Theory</i> , 2014, 60, 2233-2252.	1.5	43
26	Decomposable Principal Component Analysis. <i>IEEE Transactions on Signal Processing</i> , 2009, 57, 4369-4377.	3.2	41
27	On Convergence of Kronecker Graphical Lasso Algorithms. <i>IEEE Transactions on Signal Processing</i> , 2013, 61, 1743-1755.	3.2	41
28	Robust Linear Spectral Unmixing Using Anomaly Detection. <i>IEEE Transactions on Computational Imaging</i> , 2015, 1, 74-85.	2.6	41
29	Deep Community Detection. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 5706-5719.	3.2	37
30	Ensemble Estimators for Multivariate Entropy Estimation. <i>IEEE Transactions on Information Theory</i> , 2013, 59, 4374-4388.	1.5	36
31	Covariance Estimation in Decomposable Gaussian Graphical Models. <i>IEEE Transactions on Signal Processing</i> , 2010, 58, 1482-1492.	3.2	33
32	Efficient learning of sparse, distributed, convolutional feature representations for object recognition. , 2011, , .		33
33	Empirical Non-Parametric Estimation of the Fisher Information. <i>IEEE Signal Processing Letters</i> , 2015, 22, 988-992.	2.1	33
34	Image registration methods in high-dimensional space. <i>International Journal of Imaging Systems and Technology</i> , 2006, 16, 130-145.	2.7	32
35	Distributed Covariance Estimation in Gaussian Graphical Models. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 211-220.	3.2	31
36	Multilayer Spectral Graph Clustering via Convex Layer Aggregation: Theory and Algorithms. <i>IEEE Transactions on Signal and Information Processing Over Networks</i> , 2017, 3, 553-567.	1.6	31

#	ARTICLE	IF	CITATIONS
37	A Genomic Signature of Influenza Infection Shows Potential for Presymptomatic Detection, Guiding Early Therapy, and Monitoring Clinical Responses. <i>Open Forum Infectious Diseases</i> , 2016, 3, ofw007.	0.4	30
38	Robust Spectral Unmixing of Sparse Multispectral Lidar Waveforms Using Gamma Markov Random Fields. <i>IEEE Transactions on Computational Imaging</i> , 2017, 3, 658-670.	2.6	30
39	Fiber Tract Clustering on Manifolds With Dual Rooted-Graphs. , 2007, , .		28
40	Recursive $\ell_{1,\infty}$ Group Lasso. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 3978-3987.	3.2	27
41	Solar Flare Intensity Prediction With Machine Learning Models. <i>Space Weather</i> , 2020, 18, e2020SW002440.	1.3	27
42	On Measure Transformed Canonical Correlation Analysis. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 4570-4585.	3.2	26
43	Scalable Mutual Information Estimation Using Dependence Graphs. , 2019, , .		26
44	Local Fiedler vector centrality for detection of deep and overlapping communities in networks. , 2014, , .		25
45	Phase Transitions in Spectral Community Detection. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 4339-4347.	3.2	25
46	Assessment of the Feasibility of Using Noninvasive Wearable Biometric Monitoring Sensors to Detect Influenza and the Common Cold Before Symptom Onset. <i>JAMA Network Open</i> , 2021, 4, e2128534.	2.8	25
47	Robust Kronecker Product PCA for Spatio-Temporal Covariance Estimation. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 6368-6378.	3.2	24
48	Predicting Solar Flares Using CNN and LSTM on Two Solar Cycles of Active Region Data. <i>Astrophysical Journal</i> , 2022, 931, 163.	1.6	23
49	Ensemble estimation of multivariate f-divergence. , 2014, , .		21
50	On Decentralized Estimation With Active Queries. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 2610-2622.	3.2	21
51	Hyperspectral Image Unmixing Using a Multiresolution Sticky HDP. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 1656-1671.	3.2	20
52	Multi-centrality graph spectral decompositions and their application to cyber intrusion detection. , 2016, , .		20
53	Ensemble estimation of mutual information. , 2017, , .		19
54	Genome Architecture Mediates Transcriptional Control of Human Myogenic Reprogramming. <i>IScience</i> , 2018, 6, 232-246.	1.9	19

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55	A multidimensional shrinkage-thresholding operator. , 2009, , .		18
56	The Ontology of Biological and Clinical Statistics (OBCS) for standardized and reproducible statistical analysis. Journal of Biomedical Semantics, 2016, 7, 53.	0.9	18
57	Recurrent neural networks enable design of multifunctional synthetic human gut microbiome dynamics. ELife, 0, 11, .	2.8	18
58	Information Preserving Component Analysis: Data Projections for Flow Cytometry Analysis. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 148-158.	7.3	17
59	Two-Stage Multiscale Search for Sparse Targets. IEEE Transactions on Signal Processing, 2011, 59, 2331-2341.	3.2	17
60	Universal phase transition in community detectability under a stochastic block model. Physical Review E, 2015, 91, 032804.	0.8	17
61	Nasopharyngeal Protein Biomarkers of Acute Respiratory Virus Infection. EBioMedicine, 2017, 17, 172-181.	2.7	17
62	Direct estimation of information divergence using nearest neighbor ratios. , 2017, , .		17
63	Robust Distributed Fixed-Time Economic Dispatch Under Time-Varying Topology. , 2021, 5, 1183-1188.		17
64	Sparse Image Reconstruction using Sparse Priors. , 2006, , .		16
65	Multistage Adaptive Estimation of Sparse Signals. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 783-796.	7.3	16
66	Multimodal Event Detection in Twitter Hashtag Networks. Journal of Signal Processing Systems, 2018, 90, 185-200.	1.4	16
67	Measure-Transformed Quasi-Maximum Likelihood Estimation. IEEE Transactions on Signal Processing, 2017, 65, 748-763.	3.2	15
68	Bounds on Variance for Unimodal Distributions. IEEE Transactions on Information Theory, 2017, 63, 6936-6949.	1.5	15
69	Node removal vulnerability of the largest component of a network. , 2013, , .		14
70	Ensemble Estimation of Information Divergence $\hat{\epsilon}$. Entropy, 2018, 20, 560.	1.1	14
71	Marginal Likelihoods for Distributed Parameter Estimation of Gaussian Graphical Models. IEEE Transactions on Signal Processing, 2014, 62, 5425-5438.	3.2	13
72	Improving convergence of divergence functional ensemble estimators. , 2016, , .		13

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73	A Hierarchical Bayesian Approach to Neutron Spectrum Unfolding With Organic Scintillators. IEEE Transactions on Nuclear Science, 2019, 66, 2265-2274.	1.2	13
74	On Tests for Global Maximum of the Log-Likelihood Function. IEEE Transactions on Information Theory, 2007, 53, 2510-2525.	1.5	12
75	Direct Estimation of Density Functionals Using a Polynomial Basis. IEEE Transactions on Signal Processing, 2018, 66, 558-572.	3.2	12
76	Unequal Error Protection Querying Policies for the Noisy 20 Questions Problem. IEEE Transactions on Information Theory, 2018, 64, 1105-1131.	1.5	12
77	Numerically Stable Binary Gradient Coding. , 2020, , .		12
78	Robust spectral unmixing for anomaly detection. , 2014, , .		11
79	USING DIRECTED INFORMATION TO BUILD BIOLOGICALLY RELEVANT INFLUENCE NETWORKS. , 2007, , .		11
80	Locally-adaptive similarity metric for deformable medical image registration. , 2012, 2012, 728-731.		10
81	Multistage adaptive estimation of sparse signals. , 2012, , .		10
82	Part-Level Convolutional Neural Networks for Pedestrian Detection Using Saliency and Boundary Box Alignment. IEEE Access, 2019, 7, 23027-23037.	2.6	10
83	Word Spotting in Bitmapped Fax Documents. Information Retrieval, 2000, 2, 207-226.	1.6	9
84	Network sensor management for tracking and localization. , 2007, , .		9
85	Computerized analysis of the 12-lead electrocardiogram to identify epicardial ventricular tachycardia exit sites. Heart Rhythm, 2014, 11, 1966-1973.	0.3	9
86	Information theoretic structure learning with confidence. , 2017, , .		9
87	Optimal Sequential Energy Allocation for Inverse Problems. IEEE Journal on Selected Topics in Signal Processing, 2007, 1, 67-78.	7.3	8
88	Immunophenotypic signatures of benign and dysplastic granulopoiesis by cytomic profiling. Cytometry Part B - Clinical Cytometry, 2011, 80B, 282-290.	0.7	8
89	Measure transformed canonical correlation analysis with application to financial data. , 2012, , .		8
90	Social Collaborative Retrieval. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 680-689.	7.3	8

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91	Shortest path through random points. <i>Annals of Applied Probability</i> , 2016, 26, .	0.6	8
92	Multi-Functional Sensing for Swarm Robots Using Time Sequence Classification: HoverBot, an Example. <i>Frontiers in Robotics and AI</i> , 2018, 5, 55.	2.0	8
93	Quickest Detection for Changes in Maximal kNN Coherence of Random Matrices. <i>IEEE Transactions on Signal Processing</i> , 2018, 66, 4490-4503.	3.2	8
94	Resolution Limits for the Noisy Non-Adaptive 20 Questions Problem. <i>IEEE Transactions on Information Theory</i> , 2021, 67, 2055-2073.	1.5	8
95	A data value metric for quantifying information content and utility. <i>Journal of Big Data</i> , 2021, 8, 82.	6.9	8
96	Training in multiple-antenna Rician fading wireless channels with deterministic specular component. <i>IEEE Transactions on Wireless Communications</i> , 2007, 6, 110-119.	6.1	7
97	Low separation rank covariance estimation using Kronecker product expansions. , 2013, , .		7
98	Information extraction from large multi-layer social networks. , 2015, , .		7
99	The intrinsic value of HFO features as a biomarker of epileptic activity. , 2016, 2016, 6290-6294.		7
100	The Three-Terminal Interactive Lossy Source Coding Problem. <i>IEEE Transactions on Information Theory</i> , 2017, 63, 532-562.	1.5	7
101	Multimodal Data Fusion in High-Dimensional Heterogeneous Datasets Via Generative Models. <i>IEEE Transactions on Signal Processing</i> , 2021, 69, 5175-5188.	3.2	7
102	Principal component analysis in decomposable Gaussian graphical models. , 2009, , .		6
103	Image patch analysis of sunspots and active regions. <i>Journal of Space Weather and Space Climate</i> , 2016, 6, A3.	1.1	6
104	Analysis of a privacy-preserving PCA algorithm using random matrix theory. , 2016, , .		6
105	Fundamental Limits on Data Acquisition: Trade-offs Between Sample Complexity and Query Difficulty. , 2018, , .		6
106	Phase Transitions and a Model Order Selection Criterion for Spectral Graph Clustering. <i>IEEE Transactions on Signal Processing</i> , 2018, 66, 3407-3420.	3.2	6
107	Space-Time Adaptive Detection at Low Sample Support. <i>IEEE Transactions on Signal Processing</i> , 2021, 69, 2939-2954.	3.2	6
108	Beyond optimizationâ€”supervised learning applications in relativistic laser-plasma experiments. <i>Physics of Plasmas</i> , 2021, 28, .	0.7	6

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109	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.	0.4	5
110	Meta learning of bounds on the Bayes classifier error. , 2015, , .		5
111	Image patch analysis of sunspots and active regions. Journal of Space Weather and Space Climate, 2016, 6, A2.	1.1	5
112	Two-Stage Sampling, Prediction and Adaptive Regression via Correlation Screening. IEEE Transactions on Information Theory, 2017, 63, 698-714.	1.5	5
113	Feature Selection for Multi-labeled Variables via Dependency Maximization. , 2019, , .		5
114	Geometric Estimation of Multivariate Dependency. Entropy, 2019, 21, 787.	1.1	5
115	Adaptive spectrum sensing and estimation. , 2013, , .		4
116	Learning to Classify With Possible Sensor Failures. IEEE Transactions on Signal Processing, 2017, 65, 836-849.	3.2	4
117	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.	1.6	4
118	Expectation-propagation for weak radionuclide identification at radiation portal monitors. Scientific Reports, 2020, 10, 6811.	1.6	4
119	Learning to Bound the Multi-Class Bayes Error. IEEE Transactions on Signal Processing, 2020, 68, 3793-3807.	3.2	4
120	Adaptive Multi-Channel Event Segmentation and Feature Extraction for Monitoring Health Outcomes. IEEE Transactions on Biomedical Engineering, 2021, 68, 2377-2388.	2.5	4
121	Kronecker graphical lasso. , 2012, , .		3
122	Performance Guarantees for Adaptive Estimation of Sparse Signals. IEEE Transactions on Information Theory, 2015, 61, 2043-2059.	1.5	3
123	Part-level fully convolutional networks for pedestrian detection. , 2017, , .		3
124	A Dimension-Independent Discriminant Between Distributions. , 2018, , .		3
125	Achievable Resolution Limits for the Noisy Adaptive 20 Questions Problem. , 2021, , .		3
126	Resolution Limits of Non-Adaptive 20 Questions Search for Multiple Targets. IEEE Transactions on Information Theory, 2022, 68, 4964-4982.	1.5	3

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127	Second-Order Asymptotically Optimal Outlier Hypothesis Testing. IEEE Transactions on Information Theory, 2022, 68, 3585-3607.	1.5	3
128	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.	1.2	2
129	A performance guarantee for adaptive estimation of sparse signals. , 2013, , .		2
130	Spatio-temporal analysis of Gaussian WSS processes via complex correlation and partial correlation screening. , 2013, , .		2
131	A collaborative 20 questions model for target search with human-machine interaction. , 2013, , .		2
132	Robust linear spectral unmixing using outlier detection. , 2015, , .		2
133	Multimodal factor analysis. , 2015, , .		2
134	Dynamic metric learning from pairwise comparisons. , 2016, , .		2
135	Multilayer spectral graph clustering via convex layer aggregation. , 2016, , .		2
136	Multi-class Bayes error estimation with a global minimal spanning tree. , 2018, , .		2
137	Convergence Rates for Empirical Estimation of Binary Classification Bounds. Entropy, 2019, 21, 1144.	1.1	2
138	Resolution Limits of Non-Adaptive Querying for Noisy 20 Questions Estimation. , 2020, , .		2
139	The Power of Graph Convolutional Networks to Distinguish Random Graph Models. , 2020, , .		2
140	RAILS: A Robust Adversarial Immune-Inspired Learning System. IEEE Access, 2022, 10, 22061-22078.	2.6	2
141	Performance bounds for sparse parametric covariance estimation in Gaussian models. , 2011, , .		1
142	Adaptive search for sparse dynamic targets. , 2013, , .		1
143	Unequal error protection coding approaches to the noisy 20 questions problem. , 2016, , .		1
144	Similarity Function Tracking Using Pairwise Comparisons. IEEE Transactions on Signal Processing, 2017, 65, 5635-5648.	3.2	1

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145	AMOS: An automated model order selection algorithm for spectral graph clustering. , 2017, , .		1
146	Trade-offs Between Query Difficulty and Sample Complexity in Crowdsourced Data Acquisition. , 2018, , .		1
147	Resolution Limits of 20 Questions Search Strategies for Moving Targets. , 2021, , .		1
148	Ensemble Estimation of Generalized Mutual Information With Applications to Genomics. IEEE Transactions on Information Theory, 2021, 67, 5963-5996.	1.5	1
149	Fundamental Limits of Deep Graph Convolutional Networks for Graph Classification. IEEE Transactions on Information Theory, 2022, 68, 3218-3233.	1.5	1
150	Identifying differentially expressed genes from probe level intensities in longitudinal affymetrix microarray experiments. , 2005, , .		0
151	Manifold embedding for understanding mechanisms of transcriptional regulation. , 2006, , .		0
152	Bayesian hierarchical model for estimating gene association network from microarray data. , 2006, , .		0
153	Distributed covariance estimation in Gaussian graphical models. , 2010, , .		0
154	Order-preserving factor discovery from misaligned data. , 2010, , .		0
155	Misaligned Principal Components Analysis: Application to gene expression time series analysis. , 2011, , .		0
156	Blind collaborative 20 questions for target localization. , 2013, , .		0
157	A sparse multi-class classifier for biomarker screening. , 2013, , .		0
158	Phase transitions in spectral community detection of large noisy networks. , 2015, , .		0
159	Exponential Strong Converse for Successive Refinement with Causal Decoder Side Information. Entropy, 2019, 21, 410.	1.1	0
160	Resolution Limits of Non-Adaptive 20 Questions Estimation for Multiple Targets. , 2021, , .		0
161	Hoxa9 and Meis1 Bind Highly Conserved Elements Near Targets Regulated in Leukemia Cells.. Blood, 2008, 112, 3362-3362.	0.6	0
162	Sequential Maximum Margin Classifiers for Partially Labeled Data. , 2018, , .		0