

Alexander Bertrand

List of Publications by Year in descending order

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115
papers

3,074
citations

159525

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133
all docs

133
docs citations

133
times ranked

1693
citing authors

#	ARTICLE	IF	CITATIONS
1	Auditory-Inspired Speech Envelope Extraction Methods for Improved EEG-Based Auditory Attention Detection in a Cocktail Party Scenario. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 402-412.	2.7	176
2	A generic EEG artifact removal algorithm based on the multi-channel Wiener filter. Journal of Neural Engineering, 2018, 15, 036007.	1.8	174
3	Applications and trends in wireless acoustic sensor networks: A signal processing perspective. , 2011, , .		161
4	Distributed Adaptive Node-Specific Signal Estimation in Fully Connected Sensor Networksâ€”Part I: Sequential Node Updating. IEEE Transactions on Signal Processing, 2010, 58, 5277-5291.	3.2	137
5	Consensus-Based Distributed Total Least Squares Estimation in Ad Hoc Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2011, 59, 2320-2330.	3.2	127
6	EEG-Informed Attended Speaker Extraction From Recorded Speech Mixtures With Application in Neuro-Steered Hearing Prostheses. IEEE Transactions on Biomedical Engineering, 2017, 64, 1045-1056.	2.5	105
7	Diffusion Bias-Compensated RLS Estimation Over Adaptive Networks. IEEE Transactions on Signal Processing, 2011, 59, 5212-5224.	3.2	86
8	EEG-based auditory attention detection: boundary conditions for background noise and speaker positions. Journal of Neural Engineering, 2018, 15, 066017.	1.8	79
9	Distributed Adaptive Node-Specific Signal Estimation in Fully Connected Sensor Networksâ€”Part II: Simultaneous and Asynchronous Node Updating. IEEE Transactions on Signal Processing, 2010, 58, 5292-5306.	3.2	70
10	Distributed Adaptive Estimation of Node-Specific Signals in Wireless Sensor Networks With a Tree Topology. IEEE Transactions on Signal Processing, 2011, 59, 2196-2210.	3.2	70
11	Distributed Signal Processing for Wireless EEG Sensor Networks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 923-935.	2.7	69
12	Optimal distributed minimum-variance beamforming approaches for speech enhancement in wireless acoustic sensor networks. Signal Processing, 2015, 107, 4-20.	2.1	69
13	Robust Distributed Noise Reduction in Hearing Aids with External Acoustic Sensor Nodes. Eurasip Journal on Advances in Signal Processing, 2009, 2009, .	1.0	63
14	The effect of head-related filtering and ear-specific decoding bias on auditory attention detection. Journal of Neural Engineering, 2016, 13, 056014.	1.8	62
15	Distributed Node-Specific LCMV Beamforming in Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2012, 60, 233-246.	3.2	60
16	Distributed computation of the Fiedler vector with application to topology inference in ad hoc networks. Signal Processing, 2013, 93, 1106-1117.	2.1	55
17	Electroencephalography-Based Auditory Attention Decoding: Toward Neurosteered Hearing Devices. IEEE Signal Processing Magazine, 2021, 38, 89-102.	4.6	54
18	Seeing the Bigger Picture: How Nodes Can Learn Their Place Within a Complex Ad Hoc Network Topology. IEEE Signal Processing Magazine, 2013, 30, 71-82.	4.6	53

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19	Distributed adaptive estimation of covariance matrix eigenvectors in wireless sensor networks with application to distributed PCA. <i>Signal Processing</i> , 2014, 104, 120-135.	2.1	43
20	Analysis of Miniaturization Effects and Channel Selection Strategies for EEG Sensor Networks With Application to Auditory Attention Detection. <i>IEEE Transactions on Biomedical Engineering</i> , 2020, 67, 234-244.	2.5	43
21	Distributed Canonical Correlation Analysis in Wireless Sensor Networks With Application to Distributed Blind Source Separation. <i>IEEE Transactions on Signal Processing</i> , 2015, 63, 4800-4813.	3.2	40
22	Cooperative integrated noise reduction and node-specific direction-of-arrival estimation in a fully connected wireless acoustic sensor network. <i>Signal Processing</i> , 2015, 107, 68-81.	2.1	38
23	EEG-based detection of the locus of auditory attention with convolutional neural networks. <i>ELife</i> , 2021, 10, .	2.8	38
24	Distributed LCMV Beamforming in a Wireless Sensor Network With Single-Channel Per-Node Signal Transmission. <i>IEEE Transactions on Signal Processing</i> , 2013, 61, 3447-3459.	3.2	36
25	Heterogeneous and Multitask Wireless Sensor Networks Algorithms, Applications, and Challenges. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2017, 11, 450-465.	7.3	36
26	Distributed adaptive node-specific signal estimation in heterogeneous and mixed-topology wireless sensor networks. <i>Signal Processing</i> , 2015, 117, 44-60.	2.1	35
27	Multi-Task Wireless Sensor Network for Joint Distributed Node-Specific Signal Enhancement, LCMV Beamforming and DOA Estimation. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2017, 11, 518-533.	7.3	34
28	Change Point Detection in Time Series Data Using Autoencoders With a Time-Invariant Representation. <i>IEEE Transactions on Signal Processing</i> , 2021, 69, 3513-3524.	3.2	33
29	Removal of eye blink artifacts in wireless EEG sensor networks using reduced-bandwidth canonical correlation analysis. <i>Journal of Neural Engineering</i> , 2016, 13, 066008.	1.8	32
30	An Interpretable Performance Metric for Auditory Attention Decoding Algorithms in a Context of Neuro-Steered Gain Control. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020, 28, 307-317.	2.7	32
31	Efficient Calculation of Sensor Utility and Sensor Removal in Wireless Sensor Networks for Adaptive Signal Estimation and Beamforming. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 5857-5869.	3.2	31
32	Low-Complexity Distributed Total Least Squares Estimation in Ad Hoc Sensor Networks. <i>IEEE Transactions on Signal Processing</i> , 2012, 60, 4321-4333.	3.2	31
33	Blind Sampling Rate Offset Estimation for Wireless Acoustic Sensor Networks Through Weighted Least-Squares Coherence Drift Estimation. <i>IEEE/ACM Transactions on Audio Speech and Language Processing</i> , 2017, 25, 674-686.	4.0	30
34	Effect of number and placement of EEG electrodes on measurement of neural tracking of speech. <i>PLoS ONE</i> , 2021, 16, e0246769.	1.1	30
35	GEVD-Based Low-Rank Approximation for Distributed Adaptive Node-Specific Signal Estimation in Wireless Sensor Networks. <i>IEEE Transactions on Signal Processing</i> , 2016, 64, 2557-2572.	3.2	29
36	Towards online spike sorting for high-density neural probes using discriminative template matching with suppression of interfering spikes. <i>Journal of Neural Engineering</i> , 2018, 15, 056005.	1.8	27

#	ARTICLE	IF	CITATIONS
37	Energy-based multi-speaker voice activity detection with an ad hoc microphone array. , 2010, , .		25
38	Fast EEG-Based Decoding Of The Directional Focus Of Auditory Attention Using Common Spatial Patterns. IEEE Transactions on Biomedical Engineering, 2021, 68, 1557-1568.	2.5	25
39	End-to-end learnable EEG channel selection for deep neural networks with Gumbel-softmax. Journal of Neural Engineering, 2021, 18, 0460a9.	1.8	25
40	Incremental multiple error filtered-X LMS for node-specific active noise control over wireless acoustic sensor networks. , 2016, , .		23
41	Linear versus deep learning methods for noisy speech separation for EEG-informed attention decoding. Journal of Neural Engineering, 2020, 17, 046039.	1.8	23
42	Special issue on wireless acoustic sensor networks and ad hoc microphone arrays. Signal Processing, 2015, 107, 1-3.	2.1	22
43	Computationally-Efficient Algorithm for Real-Time Absence Seizure Detection in Wearable Electroencephalography. International Journal of Neural Systems, 2020, 30, 2050035.	3.2	22
44	Time-domain generalized cross correlation phase transform sound source localization for small microphone arrays. , 2012, , .		21
45	Blind separation of non-negative source signals using multiplicative updates and subspace projection. Signal Processing, 2010, 90, 2877-2890.	2.1	20
46	Unsupervised diffusion-based LMS for node-specific parameter estimation over wireless sensor networks. , 2016, , .		20
47	Binaural Noise Cue Preservation in a Binaural Noise Reduction System With a Remote Microphone Signal. IEEE/ACM Transactions on Audio Speech and Language Processing, 2016, 24, 952-966.	4.0	20
48	Topology-Independent Distributed Adaptive Node-Specific Signal Estimation in Wireless Sensor Networks. IEEE Transactions on Signal and Information Processing Over Networks, 2017, 3, 130-144.	1.6	20
49	EEG-based attention-driven speech enhancement for noisy speech mixtures using N-fold multi-channel Wiener filters. , 2017, , .		19
50	Utility Metrics for Assessment and Subset Selection of Input Variables for Linear Estimation [Tips & Tricks]. IEEE Signal Processing Magazine, 2018, 35, 93-99.	4.6	19
51	Motion artifact reduction in EEG recordings using multi-channel contact impedance measurements. , 2013, , .		17
52	Greedy distributed node selection for node-specific signal estimation in wireless sensor networks. Signal Processing, 2014, 94, 57-73.	2.1	17
53	Adaptive attention-driven speech enhancement for EEG-informed hearing prostheses. , 2016, 2016, 77-80.		17
54	Distributed signal estimation in sensor networks where nodes have different interests. Signal Processing, 2012, 92, 1679-1690.	2.1	16

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55	Comparison of speech envelope extraction methods for EEG-based auditory attention detection in a cocktail party scenario. , 2015, 2015, 5155-8.		16
56	Distributed adaptive generalized eigenvector estimation of a sensor signal covariance matrix pair in a fully connected sensor network. Signal Processing, 2015, 106, 209-214.	2.1	16
57	Stimulus-aware spatial filtering for single-trial neural response and temporal response function estimation in high-density EEG with applications in auditory research. NeuroImage, 2020, 204, 116211.	2.1	15
58	Electrocardiogram Quality Assessment Using Unsupervised Deep Learning. IEEE Transactions on Biomedical Engineering, 2022, 69, 882-893.	2.5	13
59	SHYBRID: A Graphical Tool for Generating Hybrid Ground-Truth Spiking Data for Evaluating Spike Sorting Performance. Neuroinformatics, 2021, 19, 141-158.	1.5	12
60	Modulating ultrasound contrast generation from injectable nanodroplets for proton range verification by varying the degree of superheat. Medical Physics, 2021, 48, 1983-1995.	1.6	12
61	Beamforming approaches for untethered, ultrasonic neural dust motes for cortical recording: A simulation study. , 2014, 2014, 2625-8.		11
62	Generalized Signal Utility for LMMSE Signal Estimation With Application to Greedy Quantization in Wireless Sensor Networks. IEEE Signal Processing Letters, 2016, 23, 1202-1206.	2.1	11
63	LCMV beamforming with subspace projection for multi-speaker speech enhancement. , 2016, , .		10
64	Adaptive Quantization for Multichannel Wiener Filter-Based Speech Enhancement in Wireless Acoustic Sensor Networks. Wireless Communications and Mobile Computing, 2017, 2017, 1-15.	0.8	10
65	The effect of miniaturization and galvanic separation of EEG sensor devices in an auditory attention detection task. , 2018, 2018, 77-80.		10
66	Fast linear least-squares method for ultrasound attenuation and backscatter estimation. Ultrasonics, 2021, 116, 106503.	2.1	9
67	Unsupervised learning of auditory filter banks using non-negative matrix factorisation. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	8
68	Unsupervised Self-Adaptive Auditory Attention Decoding. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3955-3966.	3.9	8
69	Distributed adaptive estimation of correlated node-specific signals in a fully connected sensor network. , 2009, , .		7
70	Distributed eye blink artifact removal in a wireless EEG sensor network. , 2014, , .		7
71	Distributed signal estimation in a wireless sensor network with partially-overlapping node-specific interests or source observability. , 2015, , .		7
72	Blind sampling rate offset estimation based on coherence drift in wireless acoustic sensor networks. , 2015, , .		7

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73	Grouped variable selection for generalized eigenvalue problems. Signal Processing, 2022, 195, 108476.	2.1	7
74	On the Use of Time-Domain Widely Linear Filtering for Binaural Speech Enhancement. IEEE Signal Processing Letters, 2013, 20, 649-652.	2.1	6
75	Riemannian Geometry-Based Decoding of the Directional Focus of Auditory Attention Using EEG. , 2021, , .		6
76	A data-driven spike sorting feature map for resolving spike overlap in the feature space. Journal of Neural Engineering, 2021, 18, 0460a7.	1.8	6
77	Multi-Pattern Recognition Through Maximization of Signal-to-Peak-Interference Ratio With Application to Neural Spike Sorting. IEEE Transactions on Signal Processing, 2020, 68, 6240-6254.	3.2	6
78	An On-Line, Order-Based Roughness Algorithm. , 2007, , .		5
79	Distributed LCMV beamforming in wireless sensor networks with node-specific desired signals. , 2011, , .		5
80	Optimal spatial filtering for auditory steady-state response detection using high-density EEG. , 2015, , .		5
81	Optimal Versus Approximate Channel Selection Methods for EEG Decoding With Application to Topology-Constrained Neuro-Sensor Networks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 92-102.	2.7	5
82	Distributed Adaptive Trace Ratio Optimization in Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2021, 69, 3653-3670.	3.2	5
83	Distributed MAXVAR: Identifying Common Signal Components across the Nodes of a Sensor Network. , 2021, , .		5
84	Spatially Variant Ultrasound Attenuation Mapping Using a Regularized Linear Least-Squares Approach. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 1596-1609.	1.7	5
85	Power iteration-based distributed total least squares estimation in ad hoc sensor networks. , 2012, , .		4
86	Tracking of a rotating object in a Wireless Sensor Network using fuzzy based adaptive IMM filter. , 2012, , .		4
87	Distributed adaptive eigenvector estimation of the sensor signal covariance matrix in a fully connected sensor network. , 2013, , .		4
88	Distributed signal subspace estimation based on local generalized eigenvector matrix inversion. , 2015, , .		4
89	Multidisciplinary Learning through Implementation of the DVB-S2 Standard. IEEE Communications Magazine, 2017, 55, 124-130.	4.9	4
90	Distributed adaptive node-specific signal estimation in a wireless sensor network with noisy links. Signal Processing, 2020, 166, 107220.	2.1	4

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91	A linear least squares based estimation of spatial variation of the attenuation coefficient from ultrasound backscatter signals. Proceedings of Meetings on Acoustics, 2019, , .	0.3	4
92	Efficient computation of microphone utility in a wireless acoustic sensor network with multi-channel Wiener filter based noise reduction. , 2012, , .		3
93	Distributed labelling of audio sources in wireless acoustic sensor networks using consensus and matching. , 2016, , .		3
94	Signal-to-peak-interference ratio maximization with automatic interference weighting for threshold-based spike sorting of high-density neural probe data. , 2019, , .		3
95	A Neural Network-Based Spike Sorting Feature Map That Resolves Spike Overlap in the Feature Space. , 2020, , .		3
96	EEG miniaturization limits for stimulus decoding with EEG sensor networks. Journal of Neural Engineering, 2021, 18, 056042.	1.8	3
97	Design of a sparse ellipsoidal array for volumetric ultrasound imaging of the prostate. , 2020, , .		3
98	Improved tracking performance for distributed node-specific signal enhancement in wireless acoustic sensor networks. , 2013, , .		2
99	Energy-vs-performance trade-offs in speech enhancement in wireless acoustic sensor networks. , 2015, , .		2
100	Low-rank approximation-based distributed node-specific signal estimation in a fully-connected wireless sensor network. , 2015, , .		2
101	Multi-task wireless acoustic sensor network for node-specific speech enhancement and DOA estimation. , 2016, , .		2
102	Comments on "Distributed Identification of the Most Critical Node for Average Consensus" IEEE Transactions on Signal Processing, 2017, 65, 1265-1267.	3.2	2
103	A New Metric to Evaluate Auditory Attention Detection Performance Based on a Markov Chain. , 2019, , .		2
104	A data-driven regularization approach for template matching in spike sorting with high-density neural probes. , 2019, 2019, 4376-4379.		2
105	Utility metric for unsupervised feature selection. PeerJ Computer Science, 2021, 7, e477.	2.7	2
106	Real-time distributed speech enhancement with two collaborating microphone arrays. , 2017, , .		1
107	A foldable electrode array for 3D recording of deep-seated abnormal brain cavities. Journal of Neural Engineering, 2018, 15, 036029.	1.8	1
108	Distributed Trace Ratio Optimization in Fully-Connected Sensor Networks. , 2021, , .		1

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109	Objective evaluation of stimulation artefact removal techniques in the context of neural spike sorting. <i>Journal of Neural Engineering</i> , 2022, 19, 016020.	1.8	1
110	A modified broadcast strategy for distributed signal estimation in a wireless sensor network with a tree topology. , 2014, , .		0
111	Blind parallel interrogation of ultrasonic neural dust motes based on canonical polyadic decomposition: A simulation study. , 2017, , .		0
112	Data-Driven Multi-Channel Filter Design with Peak-Interference Suppression for Threshold-Based Spike Sorting in High-Density Neural Probes. , 2018, , .		0
113	Group-Utility Metric for Efficient Sensor Selection and Removal in LCMV Beamformers. , 2020, , .		0
114	On the Convexity of Bit Depth Allocation for Linear MMSE Estimation in Wireless Sensor Networks. <i>IEEE Signal Processing Letters</i> , 2020, 27, 291-295.	2.1	0
115	Spatially variant attenuation and backscatter coefficient estimation using a regularized linear least-squares approach. , 2021, , .		0