Alexander Bertrand

List of Publications by Year
in descending order

115 papers	3,074 citations	159525 30 h-index	214721 47 g-index
133 all docs	133 docs citations	133 times ranked	1693 citing authors

#	Article	IF	Citations
1	Electrocardiogram Quality Assessment Using Unsupervised Deep Learning. IEEE Transactions on Biomedical Engineering, 2022, 69, 882-893.	2.5	13
2	Objective evaluation of stimulation artefact removal techniques in the context of neural spike sorting. Journal of Neural Engineering, 2022, 19, 016020.	1.8	1
3	Grouped variable selection for generalized eigenvalue problems. Signal Processing, 2022, 195, 108476.	2.1	7
4	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
5	SHYBRID: A Graphical Tool for Generating Hybrid Ground-Truth Spiking Data for Evaluating Spike Sorting Performance. Neuroinformatics, 2021, 19, 141-158.	1.5	12
6	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
7	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
8	Distributed Trace Ratio Optimization in Fully-Connected Sensor Networks. , 2021, , .		1
9	Distributed Adaptive Trace Ratio Optimization in Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2021, 69, 3653-3670.	3.2	5
10	Change Point Detection in Time Series Data Using Autoencoders With a Time-Invariant Representation. IEEE Transactions on Signal Processing, 2021, 69, 3513-3524.	3.2	33
11	Effect of number and placement of EEG electrodes on measurement of neural tracking of speech. PLoS ONE, 2021, 16, e0246769.	1.1	30
12	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
13	Utility metric for unsupervised feature selection. PeerJ Computer Science, 2021, 7, e477.	2.7	2
14	EEG-based detection of the locus of auditory attention with convolutional neural networks. ELife, 2021, 10, .	2.8	38
15	Riemannian Geometry-Based Decoding of the Directional Focus of Auditory Attention Using EEG. , 2021, , .		6
16	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
17	End-to-end learnable EEG channel selection for deep neural networks with Gumbel-softmax. Journal of Neural Engineering, 2021, 18, 0460a9.	1.8	25
18	Electroencephalography-Based Auditory Attention Decoding: Toward Neurosteered Hearing Devices. IEEE Signal Processing Magazine, 2021, 38, 89-102.	4.6	54

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19	Fast linear least-squares method for ultrasound attenuation and backscatter estimation. Ultrasonics, 2021, 116, 106503.	2.1	9
20	EEG miniaturization limits for stimulus decoding with EEG sensor networks. Journal of Neural Engineering, 2021, 18, 056042.	1.8	3
21	Unsupervised Self-Adaptive Auditory Attention Decoding. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 3955-3966.	3.9	8
22	Spatially variant attenuation and backscatter coefficient estimation using a regularized linear least-squares approach. , 2021, , .		0
23	Distributed MAXVAR: Identifying Common Signal Components across the Nodes of a Sensor Network. , 2021, , .		5
24	Analysis of Miniaturization Effects and Channel Selection Strategies for EEG Sensor Networks With Application to Auditory Attention Detection. IEEE Transactions on Biomedical Engineering, 2020, 67, 234-244.	2.5	43
25	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
26	Distributed adaptive node-specific signal estimation in a wireless sensor network with noisy links. Signal Processing, 2020, 166, 107220.	2.1	4
27	An Interpretable Performance Metric for Auditory Attention Decoding Algorithms in a Context of Neuro-Steered Gain Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 307-317.	2.7	32
28	A Neural Network-Based Spike Sorting Feature Map That Resolves Spike Overlap in the Feature Space. , 2020, , .		3
29	Computationally-Efficient Algorithm for Real-Time Absence Seizure Detection in Wearable Electroencephalography. International Journal of Neural Systems, 2020, 30, 2050035.	3.2	22
30	Group-Utility Metric for Efficient Sensor Selection and Removal in LCMV Beamformers. , 2020, , .		0
31	On the Convexity of Bit Depth Allocation for Linear MMSE Estimation in Wireless Sensor Networks. IEEE Signal Processing Letters, 2020, 27, 291-295.	2.1	0
32	Linear versus deep learning methods for noisy speech separation for EEG-informed attention decoding. Journal of Neural Engineering, 2020, 17, 046039.	1.8	23
33	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
34	Design of a sparse ellipsoidal array for volumetric ultrasound imaging of the prostate. , 2020, , .		3
35	Signal-to-peak-interference ratio maximization with automatic interference weighting for threshold-based spike sorting of high-density neural probe data. , 2019, , .		3
36	A New Metric to Evaluate Auditory Attention Detection Performance Based on a Markov Chain. , 2019, , .		2

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37	A data-driven regularization approach for template matching in spike sorting with high-density neural probes. , 2019, 2019, 4376-4379.		2
38	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
39	A foldable electrode array for 3D recording of deep-seated abnormal brain cavities. Journal of Neural Engineering, 2018, 15, 036029.	1.8	1
40	A generic EEG artifact removal algorithm based on the multi-channel Wiener filter. Journal of Neural Engineering, 2018, 15, 036007.	1.8	174
41	The effect of miniaturization and galvanic separation of EEG sensor devices in an auditory attention detection task. , 2018, 2018, 77-80.		10
42	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
43	Data-Driven Multi-Channel Filter Design with Peak-Interference Suppression for Threshold-Based Spike Sorting in High-Density Neural Probes. , 2018, , .		0
44	EEG-based auditory attention detection: boundary conditions for background noise and speaker positions. Journal of Neural Engineering, 2018, 15, 066017.	1.8	79
45	Towards online spike sorting for high-density neural probes using discriminative template matching with suppression of interfering spikes. Journal of Neural Engineering, 2018, 15, 056005.	1.8	27
46	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
47	Heterogeneous and Multitask Wireless Sensor Networksâ€"Algorithms, Applications, and Challenges. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 450-465.	7.3	36
48	Multi-Task Wireless Sensor Network for Joint Distributed Node-Specific Signal Enhancement, LCMV Beamforming and DOA Estimation. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 518-533.	7.3	34
49	Multidisciplinary Learning through Implementation of the DVB-S2 Standard. IEEE Communications Magazine, 2017, 55, 124-130.	4.9	4
50	Blind Sampling Rate Offset Estimation for Wireless Acoustic Sensor Networks Through Weighted Least-Squares Coherence Drift Estimation. IEEE/ACM Transactions on Audio Speech and Language Processing, 2017, 25, 674-686.	4.0	30
51	Comments on â€œDistributed Identification of the Most Critical Node for Average Consensusâ€. IEEE Transactions on Signal Processing, 2017, 65, 1265-1267.	3.2	2
52	EEG-based attention-driven speech enhancement for noisy speech mixtures using N-fold multi-channel Wiener filters. , 2017, , .		19
53	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
54	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

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55	Blind parallel interrogation of ultrasonic neural dust motes based on canonical polyadic decomposition: A simulation study. , 2017, , .		0
56	Real-time distributed speech enhancement with two collaborating microphone arrays. , 2017, , .		1
57	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
58	Unsupervised diffusion-based LMS for node-specific parameter estimation over wireless sensor networks. , 2016, , .		20
59	LCMV beamforming with subspace projection for multi-speaker speech enhancement. , 2016, , .		10
60	Distributed labelling of audio sources in wireless acoustic sensor networks using consensus and matching. , 2016, , .		3
61	Multi-task wireless acoustic sensor network for node-specific speech enhancement and DOA estimation. , 2016, , .		2
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	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
64	Removal of eye blink artifacts in wireless EEG sensor networks using reduced-bandwidth canonical correlation analysis. Journal of Neural Engineering, 2016, 13, 066008.	1.8	32
65	Adaptive attention-driven speech enhancement for EEG-informed hearing prostheses. , 2016, 2016, 77-80.		17
66	Incremental multiple error filtered-X LMS for node-specific active noise control over wireless acoustic sensor networks. , 2016, , .		23
67	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
68	GEVD-Based Low-Rank Approximation for Distributed Adaptive Node-Specific Signal Estimation in Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2016, 64, 2557-2572.	3.2	29
69	Distributed signal estimation in a wireless sensor network with partially-overlapping node-specific interests or source observability. , 2015, , .		7
70	Distributed adaptive node-specific signal estimation in heterogeneous and mixed-topology wireless sensor networks. Signal Processing, 2015, 117, 44-60.	2.1	35
71	Distributed Signal Processing for Wireless EEG Sensor Networks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 923-935.	2.7	69
72	Blind sampling rate offset estimation based on coherence drift in wireless acoustic sensor networks. , 2015, , .		7

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73	Comparison of speech envelope extraction methods for EEG-based auditory attention detection in a cocktail party scenario. , 2015, 2015, 5155-8.		16
74	Optimal spatial filtering for auditory steady-state response detection using high-density EEG. , 2015, , .		5
75	Distributed signal subspace estimation based on local generalized eigenvector matrix inversion. , 2015, , .		4
76	Energy-vs-performance trade-offs in speech enhancement in wireless acoustic sensor networks. , 2015, , .		2
77	Low-rank approximation-based distributed node-specific signal estimation in a fully-connected wireless sensor network. , 2015, , .		2
78	Distributed Canonical Correlation Analysis in Wireless Sensor Networks With Application to Distributed Blind Source Separation. IEEE Transactions on Signal Processing, 2015, 63, 4800-4813.	3.2	40
79	Special issue on wireless acoustic sensor networks and ad hoc microphone arrays. Signal Processing, 2015, 107, 1-3.	2.1	22
80	Cooperative integrated noise reduction and node-specific direction-of-arrival estimation in a fully connected wireless acoustic sensor network. Signal Processing, 2015, 107, 68-81.	2.1	38
81	Optimal distributed minimum-variance beamforming approaches for speech enhancement in wireless acoustic sensor networks. Signal Processing, 2015, 107, 4-20.	2.1	69
82	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
83	Distributed eye blink artifact removal in a wireless EEG sensor network. , 2014, , .		7
84	A modified broadcast strategy for distributed signal estimation in a wireless sensor network with a tree topology. , 2014, , .		0
85	Beamforming approaches for untethered, ultrasonic neural dust motes for cortical recording: A simulation study. , 2014, 2014, 2625-8.		11
86	Greedy distributed node selection for node-specific signal estimation in wireless sensor networks. Signal Processing, 2014, 94, 57-73.	2.1	17
87	Distributed adaptive estimation of covariance matrix eigenvectors in wireless sensor networks with application to distributed PCA. Signal Processing, 2014, 104, 120-135.	2.1	43
88	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
89	On the Use of Time-Domain Widely Linear Filtering for Binaural Speech Enhancement. IEEE Signal Processing Letters, 2013, 20, 649-652.	2.1	6
90	Motion artifact reduction in EEG recordings using multi-channel contact impedance measurements. , 2013, , .		17

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91	Distributed computation of the Fiedler vector with application to topology inference in ad hoc networks. Signal Processing, 2013, 93, 1106-1117.	2.1	55
92	Distributed LCMV Beamforming in a Wireless Sensor Network With Single-Channel Per-Node Signal Transmission. IEEE Transactions on Signal Processing, 2013, 61, 3447-3459.	3.2	36
93	Improved tracking performance for distributed node-specific signal enhancement inwireless acoustic sensor networks. , 2013, , .		2
94	Distributed adaptive eigenvector estimation of the sensor signal covariance matrix in a fully connected sensor network. , 2013, , .		4
95	Time-domain generalized cross correlation phase transform sound source localization for small microphone arrays. , 2012, , .		21
96	Distributed Node-Specific LCMV Beamforming in Wireless Sensor Networks. IEEE Transactions on Signal Processing, 2012, 60, 233-246.	3.2	60
97	Power iteration-based distributed total least squares estimation in ad hoc sensor networks. , 2012, , .		4
98	Efficient computation of microphone utility in a wireless acoustic sensor network with multi-channel Wiener filter based noise reduction. , 2012, , .		3
99	Tracking of a rotating object in a Wireless Sensor Network using fuzzy based adaptive IMM filter. , 2012, , .		4
100	Efficient Calculation of Sensor Utility and Sensor Removal in Wireless Sensor Networks for Adaptive Signal Estimation and Beamforming. IEEE Transactions on Signal Processing, 2012, 60, 5857-5869.	3.2	31
101	Low-Complexity Distributed Total Least Squares Estimation in Ad Hoc Sensor Networks. IEEE Transactions on Signal Processing, 2012, 60, 4321-4333.	3.2	31
102	Distributed signal estimation in sensor networks where nodes have different interests. Signal Processing, 2012, 92, 1679-1690.	2.1	16
103	Applications and trends in wireless acoustic sensor networks: A signal processing perspective. , 2011, , .		161
104	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
105	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
106	Distributed LCMV beamforming in wireless sensor networks with node-specific desired signals. , 2011, , .		5
107	Diffusion Bias-Compensated RLS Estimation Over Adaptive Networks. IEEE Transactions on Signal Processing, 2011, 59, 5212-5224.	3.2	86
108	Blind separation of non-negative source signals using multiplicative updates and subspace projection. Signal Processing, 2010, 90, 2877-2890.	2.1	20

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109	Energy-based multi-speaker voice activity detection with an ad hoc microphone array. , 2010, , .		25
110	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
111	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
112	Distributed adaptive estimation of correlated node-specific signals in a fully connected sensor network. , 2009, , .		7
113	Robust Distributed Noise Reduction in Hearing Aids with External Acoustic Sensor Nodes. Eurasip Journal on Advances in Signal Processing, 2009, 2009, .	1.0	63
114	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
115	An On-Line, Order-Based Roughness Algorithm. , 2007, , .		5