

# Soumya Kar

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6252712/publications.pdf>

Version: 2024-02-01

177  
papers

6,672  
citations

94269

37  
h-index

76769

74  
g-index

178  
all docs

178  
docs citations

178  
times ranked

4447  
citing authors

#	ARTICLE	IF	CITATIONS
1	Push-SAGA: A Decentralized Stochastic Algorithm With Variance Reduction Over Directed Graphs. , 2022, 6, 1202-1207.		11
2	Distributed Gradient Flow: Nonsmoothness, Nonconvexity, and Saddle Point Evasion. IEEE Transactions on Automatic Control, 2022, 67, 3949-3964.	3.6	4
3	A Fast Randomized Incremental Gradient Method for Decentralized Nonconvex Optimization. IEEE Transactions on Automatic Control, 2022, 67, 5150-5165.	3.6	8
4	Fast Decentralized Nonconvex Finite-Sum Optimization with Recursive Variance Reduction. SIAM Journal on Optimization, 2022, 32, 1-28.	1.2	15
5	S-ADDOPT: Decentralized Stochastic First-Order Optimization Over Directed Graphs. , 2021, 5, 953-958.		23
6	Utility-Scale Portable Energy Storage Systems. Joule, 2021, 5, 379-392.	11.7	47
7	A Decentralized Variance-Reduced Method for Stochastic Optimization Over Directed Graphs. , 2021, , .		2
8	Power System Dispatch With Marginal Degradation Cost of Battery Storage. IEEE Transactions on Power Systems, 2021, 36, 3552-3562.	4.6	16
9	An Improved Convergence Analysis for Decentralized Online Stochastic Non-Convex Optimization. IEEE Transactions on Signal Processing, 2021, 69, 1842-1858.	3.2	28
10	Resilient decentralized optimization in multi-agent networks with data injection attack. , 2021, , .		1
11	Dynamic Median Consensus Over Random Networks. , 2021, , .		4
12	Sensor Placement for Outage Identifiability in Power Distribution Networks. IEEE Transactions on Smart Grid, 2020, 11, 1996-2013.	6.2	18
13	Resilient Distributed Recovery of Large Fields. , 2020, , .		1
14	Variance-Reduced Decentralized Stochastic Optimization With Accelerated Convergence. IEEE Transactions on Signal Processing, 2020, 68, 6255-6271.	3.2	41
15	Decentralized Zeroth-Order Constrained Stochastic Optimization Algorithms: Frankâ€™Wolfe and Variants With Applications to Black-Box Adversarial Attacks. Proceedings of the IEEE, 2020, 108, 1890-1905.	16.4	6
16	Regular potential games. Games and Economic Behavior, 2020, 124, 432-453.	0.4	2
17	Decentralized Stochastic Optimization and Machine Learning: A Unified Variance-Reduction Framework for Robust Performance and Fast Convergence. IEEE Signal Processing Magazine, 2020, 37, 102-113.	4.6	69
18	Outage Detection for Distribution Networks Using Limited Number of Power Flow Measurements. Journal of Modern Power Systems and Clean Energy, 2020, 8, 315-324.	3.3	8

#	ARTICLE	IF	CITATIONS
19	Resilient Distributed Field Estimation. SIAM Journal on Control and Optimization, 2020, 58, 1429-1456.	1.1	9
20	Distributed Outage Detection in Power Distribution Networks. IEEE Transactions on Smart Grid, 2020, 11, 5124-5137.	6.2	15
21	The economic end of life of electrochemical energy storage. Applied Energy, 2020, 273, 115151.	5.1	28
22	Promises of Fully Distributed Optimization for IoT-Based Smart City Infrastructures. Advances in Intelligent Systems and Computing, 2020, , 15-35.	0.5	5
23	Resilient Distributed Parameter Estimation With Heterogeneous Data. IEEE Transactions on Signal Processing, 2019, 67, 4918-4933.	3.2	24
24	Control of Parametric Games. , 2019, , .		4
25	Optimal Sensor Placement for Topology Identification in Smart Power Grids. , 2019, , .		14
26	Revisiting Normalized Gradient Descent: Fast Evasion of Saddle Points. IEEE Transactions on Automatic Control, 2019, 64, 4818-4824.	3.6	19
27	Selective strong structural minimum-cost resilient co-design for regular descriptor linear systems. Automatica, 2019, 102, 80-85.	3.0	10
28	Secure Analytics and Resilient Inference for the Internet of Things. , 2019, , .		0
29	MATCHA: Speeding Up Decentralized SGD via Matching Decomposition Sampling. , 2019, , .		56
30	Distributed empirical risk minimization over directed graphs. , 2019, , .		2
31	Learning Transition Statistics in Networks of Interacting Agents. , 2019, , .		1
32	Distributed stochastic optimization with gradient tracking over strongly-connected networks. , 2019, , .		51
33	Resistive-Aware Linear Approximations for Solving the Optimal Power Flow Problem for Distribution Networks. , 2019, , .		2
34	Annealing for Distributed Global Optimization. , 2019, , .		3
35	Distributed Holistic Framework for Smart City Infrastructures: Tale of Interdependent Electrified Transportation Network and Power Grid. IEEE Access, 2019, 7, 157535-157554.	2.6	50
36	Distributed Gradient Descent: Nonconvergence to Saddle Points and the Stable-Manifold Theorem. , 2019, , .		5

#	ARTICLE	IF	CITATIONS
37	Compressive Sensing and Morphology Singular Entropy-Based Real-Time Secondary Voltage Control of Multiarea Power Systems. IEEE Transactions on Industrial Informatics, 2019, 15, 3796-3807.	7.2	16
38	Resilient Distributed Estimation: Sensor Attacks. IEEE Transactions on Automatic Control, 2019, 64, 3772-3779.	3.6	67
39	Resilient Distributed Estimation Through Adversary Detection. IEEE Transactions on Signal Processing, 2018, 66, 2455-2469.	3.2	64
40	An intertemporal decision framework for electrochemical energy storage management. Nature Energy, 2018, 3, 404-412.	19.8	50
41	Distributed Quickest Detection in Sensor Networks via Two-Layer Large Deviation Analysis. IEEE Internet of Things Journal, 2018, 5, 930-942.	5.5	8
42	Distributed Inertial Best-Response Dynamics. IEEE Transactions on Automatic Control, 2018, 63, 4294-4300.	3.6	21
43	Agent-Based Distributed Security Constrained Optimal Power Flow. IEEE Transactions on Smart Grid, 2018, 9, 1118-1130.	6.2	39
44	Toward Distributed/Decentralized DC Optimal Power Flow Implementation in Future Electric Power Systems. IEEE Transactions on Smart Grid, 2018, 9, 2574-2594.	6.2	204
45	A Fully Distributed Cooperative Charging Approach for Plug-In Electric Vehicles. IEEE Transactions on Smart Grid, 2018, 9, 3507-3518.	6.2	39
46	Optimal Attack Strategies Subject to Detection Constraints Against Cyber-Physical Systems. IEEE Transactions on Control of Network Systems, 2018, 5, 1157-1168.	2.4	79
47	Structurally Observable Distributed Networks of Agents Under Cost and Robustness Constraints. IEEE Transactions on Signal and Information Processing Over Networks, 2018, 4, 236-247.	1.6	10
48	Cyber-Physical Attacks With Control Objectives. IEEE Transactions on Automatic Control, 2018, 63, 1418-1425.	3.6	56
49	Best-Response Dynamics in Continuous Potential Games: Non-Convergence to Saddle Points. , 2018, , .		1
50	NON-ASYMPTOTIC RATES FOR COMMUNICATION EFFICIENT DISTRIBUTED ZEROth ORDER STRONGLY CONVEX OPTIMIZATION. , 2018, , .		4
51	Resilient Distributed Estimation: Exponential Convergence Under Sensor Attacks. , 2018, , .		7
52	Large Deviations for Products of Non-I.i.d. Stochastic Matrices with Application to Distributed Detection. , 2018, , .		1
53	Real-time Singular Value Decomposition based Load Frequency Control of Multi-area Power System. , 2018, , .		0
54	Fast Temporal Path Localization on Graphs via Multiscale Viterbi Decoding. IEEE Transactions on Signal Processing, 2018, 66, 5588-5603.	3.2	3

#	ARTICLE	IF	CITATIONS
55	The Internet of Things: Secure Distributed Inference. IEEE Signal Processing Magazine, 2018, 35, 64-75.	4.6	52
56	Distributed Localization: A Linear Theory. Proceedings of the IEEE, 2018, 106, 1204-1223.	16.4	79
57	On Best-Response Dynamics in Potential Games. SIAM Journal on Control and Optimization, 2018, 56, 2734-2767.	1.1	33
58	Game Theoretic Learning. , 2018, , 209-235.		1
59	Smart Inverter for Voltage Regulation: Physical and Market Implementation. IEEE Transactions on Power Systems, 2018, 33, 6181-6192.	4.6	21
60	Mathcal {CIRFE}: A Distributed Random Fields Estimator. IEEE Transactions on Signal Processing, 2018, 66, 4980-4995.	3.2	12
61	Attack Resilient Distributed Estimation: A Consensus+Innovations Approach. , 2018, , .		16
62	ON GRAPH CONVOLUTION FOR GRAPH CNNs. , 2018, , .		10
63	Composability and controllability of structural linear time-invariant systems: Distributed verification. Automatica, 2017, 78, 123-134.	3.0	34
64	Computing Linear Transformations With Unreliable Components. IEEE Transactions on Information Theory, 2017, 63, 3729-3756.	1.5	34
65	The robust minimal controllability problem. Automatica, 2017, 82, 261-268.	3.0	35
66	Rate Distortion for Lossy In-Network Linear Function Computation and Consensus: Distortion Accumulation and Sequential Reverse Water-Filling. IEEE Transactions on Information Theory, 2017, 63, 5179-5206.	1.5	5
67	Single Sample Fictitious Play. IEEE Transactions on Automatic Control, 2017, 62, 6026-6031.	3.6	7
68	Recursive Distributed Detection for Composite Hypothesis Testing: Nonlinear Observation Models in Additive Gaussian Noise. IEEE Transactions on Information Theory, 2017, 63, 4797-4828.	1.5	15
69	Dynamic Attack Detection in Cyber-Physical Systems With Side Initial State Information. IEEE Transactions on Automatic Control, 2017, 62, 4618-4624.	3.6	106
70	Fully distributed corrective security constrained optimal power flow. , 2017, , .		6
71	Compressive Sensing-Based Optimal Reactive Power Control of a Multi-Area Power System. IEEE Access, 2017, 5, 23576-23588.	2.6	17
72	Distributed voltage regulation in distribution power grids: Utilizing the photovoltaics inverters. , 2017, , .		6

#	ARTICLE	IF	CITATIONS
73	Fast path localization on graphs via multiscale Viterbi decoding. , 2017, , .		2
74	Learning-Based Distributed Detection-Estimation in Sensor Networks With Unknown Sensor Defects. IEEE Transactions on Signal Processing, 2017, 65, 130-145.	3.2	12
75	Graph Codes for Distributed Instant Message Collection in an Arbitrary Noisy Broadcast Network. IEEE Transactions on Information Theory, 2017, , 1-1.	1.5	4
76	Convergence analysis of the information matrix in Gaussian Belief Propagation. , 2017, , .		14
77	Distributed convergence verification for Gaussian belief propagation. , 2017, , .		2
78	Risk-limiting economic dispatch for electricity markets with flexible ramping products. , 2017, , .		3
79	Reputation-Based Ranking Systems and Their Resistance to Bribery. , 2017, , .		11
80	Convergence analysis of belief propagation for pairwise linear Gaussian models. , 2017, , .		4
81	Dist-Hedge: A partial information setting based distributed non-stochastic sequence prediction algorithm. , 2017, , .		1
82	Distributed cooperative charging for plug-in electric vehicles: A consensus+innovations approach. , 2016, , .		7
83	Adaptive social networks: Strong attractors and emergence and downfall of leaders. , 2016, , .		0
84	Fault-tolerant distributed logistic regression using unreliable components. , 2016, , .		10
85	Queue-based broadcast gossip algorithm for consensus. , 2016, , .		0
86	Distributed Bayesian quickest change detection in sensor networks via large deviation analysis. , 2016, , .		3
87	Learning pure-strategy Nash equilibria in networked multi-agent systems with uncertainty. , 2016, , .		0
88	Thermodynamic limit of interacting particle systems over dynamical networks. , 2016, , .		0
89	Information flow for security in control systems. , 2016, , .		31
90	Cyber physical attacks with control objectives and detection constraints. , 2016, , .		12

#	ARTICLE	IF	CITATIONS
91	Enhanced secondary frequency control via distributed peer-to-peer communication. , 2016, , .		9
92	Computing linear transforms with unreliable components. , 2016, , .		2
93	Distributed recursive composite hypothesis testing: Imperfect communication. , 2016, , .		2
94	Cyber physical attacks constrained by control objectives. , 2016, , .		16
95	Distributed generalized likelihood ratio tests: Fundamental limits and tradeoffs. , 2016, , .		1
96	Distributed Constrained Recursive Nonlinear Least-Squares Estimation: Algorithms and Asymptotics. IEEE Transactions on Signal and Information Processing Over Networks, 2016, , 1-1.	1.6	24
97	Guest Editorial The Theory of Complex Systems With Applications to Smart Grid Operations. IEEE Transactions on Smart Grid, 2016, 7, 1949-1950.	6.2	6
98	On the design of phase locked loop oscillatory neural networks: Mitigation of transmission delay effects. , 2016, , .		5
99	Fault-tolerant parallel linear filtering using compressive sensing. , 2016, , .		10
100	A fully distributed approach for plug-in electric vehicle charging. , 2016, , .		9
101	Computationally efficient learning in large-scale games: Sampled fictitious play revisited. , 2016, , .		0
102	Distributed sequence prediction: A consensus+innovations approach. , 2016, , .		1
103	Minimum cost input/output design for large-scale linear structural systems. Automatica, 2016, 68, 384-391.	3.0	57
104	Risk-Limiting Economic Dispatch for Electricity Markets With Flexible Ramping Products. IEEE Transactions on Power Systems, 2016, 31, 1990-2003.	4.6	74
105	Distributed Sequential Detection for Gaussian Shift-in-Mean Hypothesis Testing. IEEE Transactions on Signal Processing, 2016, 64, 89-103.	3.2	24
106	A Framework for Structural Input/Output and Control Configuration Selection in Large-Scale Systems. IEEE Transactions on Automatic Control, 2016, 61, 303-318.	3.6	173
107	On the complexity of the constrained input selection problem for structural linear systems. Automatica, 2015, 62, 193-199.	3.0	54
108	A computationally efficient implementation of fictitious play in a distributed setting. , 2015, , .		3

#	ARTICLE	IF	CITATIONS
109	Multilevel distributed approach for DC Optimal Power Flow. , 2015, , .		5
110	Information dissipation in noiseless lossy in-network function computation. , 2015, , .		2
111	Consensus + Innovations Approach for Distributed Multiagent Coordination in a Microgrid. IEEE Transactions on Smart Grid, 2015, 6, 1893-1903.	6.2	274
112	Asynchronous distributed approach for DC Optimal Power Flow. , 2015, , .		21
113	On asynchronous implementations of fictitious play for distributed learning. , 2015, , .		1
114	Minimum cost constrained input-output and control configuration co-design problem: A structural systems approach. , 2015, , .		21
115	Distributed Kalman Filtering Over Massive Data Sets: Analysis Through Large Deviations of Random Riccati Equations. IEEE Transactions on Information Theory, 2015, 61, 1351-1372.	1.5	40
116	A functional approach to assessing flexible ramping products' impact on electricity market. , 2015, , .		7
117	Empirical Centroid Fictitious Play: An Approach for Distributed Learning in Multi-Agent Games. IEEE Transactions on Signal Processing, 2015, 63, 3888-3901.	3.2	59
118	Cyber-physical systems: Dynamic sensor attacks and strong observability. , 2015, , .		32
119	Fully distributed DC-OPF approach for power flow control. , 2015, , .		13
120	Linear Theory for Self-Localization: Convexity, Barycentric Coordinates, and Cayley's Menger Determinants. IEEE Access, 2015, 3, 1326-1339.	2.6	17
121	Distributed Kalman Filtering With Quantized Sensing State. IEEE Transactions on Signal Processing, 2015, 63, 5180-5193.	3.2	30
122	Cooperative Control of Distributed Energy Storage Systems in a Microgrid. IEEE Transactions on Smart Grid, 2015, 6, 238-248.	6.2	222
123	Role of communication on the convergence rate of fully distributed DC optimal power flow. , 2014, , .		18
124	Distributed sequential detection for Gaussian binary hypothesis testing: Heterogeneous networks. , 2014, , .		3
125	Minimum number of information gatherers to ensure full observability of a dynamic social network: A structural systems approach. , 2014, , .		11
126	Sensor placement for real-time dynamic state estimation in power systems: Structural systems approach. , 2014, , .		0



#	ARTICLE	IF	CITATIONS
127	Game-theoretic learning in a distributed-information setting: Distributed convergence to mean-centric equilibria. , 2014, , .		0
128	Can a noisy encoder be used to communicate reliably?. , 2014, , .		13
129	Distributed State Estimation and Energy Management in Smart Grids: A Consensus $\{+\}$ Innovations Approach. IEEE Journal on Selected Topics in Signal Processing, 2014, 8, 1022-1038.	7.3	191
130	Finite-time distributed consensus through graph filters. , 2014, , .		79
131	Strong convergence to mixed equilibria in fictitious play. , 2014, , .		0
132	Asymptotically Efficient Distributed Estimation With Exponential Family Statistics. IEEE Transactions on Information Theory, 2014, 60, 4811-4831.	1.5	18
133	$\{Q\}$ -Learning: A Collaborative Distributed Strategy for Multi-Agent Reinforcement Learning Through $\{m\}$ Consensus + $\{m\}$ Innovations\$. IEEE Transactions on Signal Processing, 2013, 61, 1848-1862.	3.2	112
134	A benders decomposition approach to corrective security constrained OPF with power flow control devices. , 2013, , .		18
135	Distributed Linear Parameter Estimation: Asymptotically Efficient Adaptive Strategies. SIAM Journal on Control and Optimization, 2013, 51, 2200-2229.	1.1	62
136	On a consistent procedure for distributed recursive nonlinear least-squares estimation. , 2013, , .		1
137	A framework for actuator placement in large scale power systems: Minimal strong structural controllability. , 2013, , .		9
138	A structured systems approach for optimal actuator-sensor placement in linear time-invariant systems. , 2013, , .		41
139	Mean-centric equilibrium: An equilibrium concept for learning in large-scale games. , 2013, , .		2
140	A model checking framework for linear time invariant switching systems using structural systems analysis. , 2013, , .		8
141	Consensus + innovations distributed inference over networks: cooperation and sensing in networked systems. IEEE Signal Processing Magazine, 2013, 30, 99-109.	4.6	150
142	Optimal cost actuator/sensor placement for large scale linear time-invariant systems: A structured systems approach. , 2013, , .		5
143	Distributed estimation in sensor networks with imperfect model information: An adaptive learning-based approach. , 2012, , .		8
144	Distributed learning in large-scale multi-agent games: A modified fictitious play approach. , 2012, , .		16

#	ARTICLE	IF	CITATIONS
145	Coordinated Data-Injection Attack and Detection in the Smart Grid: A Detailed Look at Enriching Detection Solutions. IEEE Signal Processing Magazine, 2012, 29, 106-115.	4.6	187
146	Moderate Deviations of a Random Riccati Equation. IEEE Transactions on Automatic Control, 2012, 57, 2250-2265.	3.6	6
147	LMP-based real time pricing for optimal capacity planning with maximal wind power integration. , 2012, , .		2
148	Using smart devices for system-level management and control in the smart grid: A reinforcement learning framework. , 2012, , .		29
149	On the behavior of responsive loads in the presence of DFACTS devices. , 2012, , .		9
150	Fully Distributed State Estimation for Wide-Area Monitoring Systems. IEEE Transactions on Smart Grid, 2012, 3, 1154-1169.	6.2	253
151	Kalman Filtering With Intermittent Observations: Weak Convergence to a Stationary Distribution. IEEE Transactions on Automatic Control, 2012, 57, 405-420.	3.6	120
152	Distributed robust economic dispatch in power systems: A consensus &#x002B; innovations approach. , 2012, , .		203
153	Distributed Parameter Estimation in Sensor Networks: Nonlinear Observation Models and Imperfect Communication. IEEE Transactions on Information Theory, 2012, 58, 3575-3605.	1.5	327
154	A coordination-free distributed algorithm for simple assignment problems using randomized actions. , 2011, , .		4
155	Convergence Rate Analysis of Distributed Gossip (Linear Parameter) Estimation: Fundamental Limits and Tradeoffs. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 674-690.	7.3	187
156	Gossip Algorithms for Distributed Signal Processing. Proceedings of the IEEE, 2010, 98, 1847-1864.	16.4	659
157	A random dynamical systems approach to filtering in large-scale networks. , 2010, , .		2
158	On connectivity, observability, and stability in distributed estimation. , 2010, , .		69
159	DILAND: An Algorithm for Distributed Sensor Localization With Noisy Distance Measurements. IEEE Transactions on Signal Processing, 2010, 58, 1940-1947.	3.2	139
160	Sample path large deviations for the randomly sampled continuous-discrete Kalman filter. , 2010, , .		1
161	Higher Dimensional Consensus: Learning in Large-Scale Networks. IEEE Transactions on Signal Processing, 2010, 58, 2836-2849.	3.2	39
162	Distributed Consensus Algorithms in Sensor Networks: Quantized Data and Random Link Failures. IEEE Transactions on Signal Processing, 2010, 58, 1383-1400.	3.2	352

#	ARTICLE	IF	CITATIONS
163	Designing the parameters of high dimensional consensus: Multi-objective optimization and pareto-optimality. , 2010, , .		0
164	A mixed time-scale algorithm for distributed parameter estimation : Nonlinear observation models and imperfect communication. , 2009, , .		10
165	Higher dimensional consensus algorithms in sensor networks. , 2009, , .		7
166	Distributed localization and tracking with coordinated and uncoordinated motion models. , 2009, , .		8
167	Asymptotic noise analysis of high dimensional consensus. , 2009, , .		0
168	Distributed sensor localization using barycentric coordinates. , 2009, , .		1
169	Topology for Distributed Inference on Graphs. IEEE Transactions on Signal Processing, 2008, 56, 2609-2613.	3.2	77
170	Large deviations for many server networks with long range dependent and batch arrivals. , 2008, , .		0
171	A linear iterative algorithm for distributed sensor localization. , 2008, , .		3
172	Distributed average consensus in sensor networks with quantized inter-sensor communication. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	16
173	Distributed linear parameter estimation in sensor networks: Convergence properties. , 2008, , .		9
174	Distributed Average Consensus in Sensor Networks with Random Link Failures. , 2007, , .		48
175	Distributed Average Consensus in Sensor Networks with Random Link Failures and Communication Channel Noise. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	22
176	Topology for Global Average Consensus. , 2006, , .		22
177	Cascading verification initiated by switching attacks through compromised digital relays. IET Smart Grid, 0, , .	1.5	1