Ali Jadbabaie

List of Publications by Year
in descending order

140 papers	7,102 citations	172207 29 h-index	149479 56 g-index
141 all docs	141 docs citations	141 times ranked	3936 citing authors

#	Article	IF	Citations
1	Flocking in Fixed and Switching Networks. IEEE Transactions on Automatic Control, 2007, 52, 863-868.	3.6	1,210
2	A Framework for Worst-Case and Stochastic Safety Verification Using Barrier Certificates. IEEE Transactions on Automatic Control, 2007, 52, 1415-1428.	3.6	404
3	A Necessary and Sufficient Condition for Consensus Over Random Networks. IEEE Transactions on Automatic Control, 2008, 53, 791-795.	3.6	384
4	Non-Bayesian social learning. Games and Economic Behavior, 2012, 76, 210-225.	0.4	374
5	Simplicial closure and higher-order link prediction. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11221-E11230.	3.3	266
6	Decentralized Control of Connectivity for Multi-Agent Systems. , 2006, , .		215
7	Consensus Over Ergodic Stationary Graph Processes. IEEE Transactions on Automatic Control, 2010, 55, 225-230.	3.6	194
8	Optimal Resource Allocation for Network Protection Against Spreading Processes. IEEE Transactions on Control of Network Systems, 2014, 1, 99-108.	2.4	194
9	Hybrid Control for Connectivity Preserving Flocking. IEEE Transactions on Automatic Control, 2009, 54, 2869-2875.	3.6	187
10	Vision-Based, Distributed Control Laws for Motion Coordination of Nonholonomic Robots. IEEE Transactions on Robotics, 2009, 25, 851-860.	7.3	182
11	Distributed Online Optimization in Dynamic Environments Using Mirror Descent. IEEE Transactions on Automatic Control, 2018, 63, 714-725.	3.6	173
12	Effects of Delay in Multi-Agent Consensus and Oscillator Synchronization. IEEE Transactions on Automatic Control, 2010, 55, 1471-1477.	3.6	168
13	A Distributed Newton Method for Network Utility Maximizationâ€"I: Algorithm. IEEE Transactions on Automatic Control, 2013, 58, 2162-2175.	3.6	167
14	Optimal Control of Spatially Distributed Systems. IEEE Transactions on Automatic Control, 2008, 53, 1616-1629.	3.6	149
15	Flocking while preserving network connectivity. , 2007, , .		143
16	Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2113561119.	3.3	136
17	Distributed Geodesic Control Laws for Flocking of Nonholonomic Agents. IEEE Transactions on Automatic Control, 2007, 52, 681-686.	3.6	130
18	A Theory of Non-Bayesian Social Learning. Econometrica, 2018, 86, 445-490.	2.6	113

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19	Random Walks on Simplicial Complexes and the Normalized Hodge 1-Laplacian. SIAM Review, 2020, 62, 353-391.	4.2	113
20	Optimal vaccine allocation to control epidemic outbreaks in arbitrary networks. , 2013, , .		106
21	Approximation of the joint spectral radius using sum of squares. Linear Algebra and Its Applications, 2008, 428, 2385-2402.	0.4	104
22	Online optimization in dynamic environments: Improved regret rates for strongly convex problems. , 2016, , .		95
23	Distributed Coverage Verification in Sensor Networks Without Location Information. IEEE Transactions on Automatic Control, 2010, 55, 1837-1849.	3.6	87
24	Dynamic Pricing in Social Networks: The Word-of-Mouth Effect. Management Science, 2018, 64, 971-979.	2.4	78
25	Accelerated Dual Descent for Network Flow Optimization. IEEE Transactions on Automatic Control, 2014, 59, 905-920.	3.6	75
26	On connectivity, observability, and stability in distributed estimation. , 2010, , .		69
27	Distributed Detection: Finite-Time Analysis and Impact of Network Topology. IEEE Transactions on Automatic Control, 2016, 61, 3256-3268.	3.6	67
28	A distributed Newton method for Network Utility Maximization. , 2010, , .		63
29	Multiagent Flocking Under General Communication Rule. IEEE Transactions on Control of Network Systems, 2014, 1, 155-166.	2.4	56
30	Robust non-fragile LQ controllers: The static state feedback case. International Journal of Control, 2000, 73, 159-165.	1.2	55
31	Exponentially fast parameter estimation in networks using distributed dual averaging. , 2013, , .		55
32	A Distributed Newton Method for Network Utility Maximizationâ€"Part II: Convergence. IEEE Transactions on Automatic Control, 2013, 58, 2176-2188.	3.6	50
33	Comparison of nonlinear control design techniques on a model of the Caltech ducted fan. Automatica, 2001, 37, 1971-1978.	3.0	37
34	A One-Parameter Family of Distributed Consensus Algorithms with Boundary: From Shortest Paths to Mean Hitting Times. , 2006, , .		36
35	Coordinated networked estimation strategies using structured systems theory. , 2011, , .		35
36	Collaborative scalar-gain estimators for potentially unstable social dynamics with limited communication. Automatica, 2014, 50, 1909-1914.	3.0	35

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37	On the stability and optimality of distributed Kalman filters with finite-time data fusion. , 2011, , .		32
38	Decentralized Computation of Homology Groups in Networks by Gossip. Proceedings of the American Control Conference, 2007, , .	0.0	31
39	Distributed Newton Method for Large-Scale Consensus Optimization. IEEE Transactions on Automatic Control, 2019, 64, 3983-3994.	3.6	30
40	Structural Analysis of Laplacian Spectral Properties of Large-Scale Networks. IEEE Transactions on Automatic Control, 2013, 58, 2338-2343.	3.6	28
41	Spectral Alignment of Graphs. IEEE Transactions on Network Science and Engineering, 2020, 7, 1182-1197.	4.1	27
42	Blind Community Detection From Low-Rank Excitations of a Graph Filter. IEEE Transactions on Signal Processing, 2020, 68, 436-451.	3.2	27
43	Online Control Customization via Optimization-Based Control. , 2004, , 149-174.		26
44	Input-to-state stable finite horizon MPC for neutrally stable linear discrete-time systems with input constraints. Systems and Control Letters, 2006, 55, 293-303.	1.3	26
45	Density Functions for Navigation-Function-Based Systems. IEEE Transactions on Automatic Control, 2008, 53, 612-617.	3.6	26
46	Spectral analysis of virus spreading in random geometric networks. , 2009, , .		26
47	Accelerated dual descent for network optimization. , 2011, , .		25
48	LQG Control and Sensing Co-Design. IEEE Transactions on Automatic Control, 2021, 66, 1468-1483.	3.6	25
49	Small world phenomenon, rapidly mixing Markov chains, and average consensus algorithms. , 2007, , .		24
50	Delay Robustness of Nonlinear Internet Congestion Control Schemes. IEEE Transactions on Automatic Control, 2010, 55, 1421-1427.	3.6	24
51	Game theoretic analysis of a strategic model of competitive contagion and product adoption in social networks. , 2012, , .		24
52	Near-optimal sensor scheduling for batch state estimation: Complexity, algorithms, and limits. , 2016, , .		24
53	Resilient monotone submodular function maximization. , 2017, , .		23
54	Reaching Consensus With Increasing Information. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 358-369.	7.3	22

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55	Learning in network games with incomplete information: asymptotic analysis and tractable implementation of rational behavior. IEEE Signal Processing Magazine, 2013, 30, 30-42.	4.6	22
56	On Recurrence of Graph Connectivity in Vicsek's Model of Motion Coordination for Mobile Autonomous Agents. Proceedings of the American Control Conference, 2007, , .	0.0	21
57	Distributed coverage verification in sensor networks without location information. , 2008, , .		21
58	On decentralized optimal control and information structures. , 2008, , .		20
59	Deterministic and Randomized Actuator Scheduling With Guaranteed Performance Bounds. IEEE Transactions on Automatic Control, 2021, 66, 1686-1701.	3.6	20
60	Distributed Multi-Parametric Quadratic Programming. IEEE Transactions on Automatic Control, 2009, 54, 2279-2289.	3.6	18
61	Bayesian Quadratic Network Game Filters. IEEE Transactions on Signal Processing, 2014, 62, 2250-2264.	3.2	18
62	Accelerated backpressure algorithm. , 2013, , .		17
63	Approximation methods and spatial interpolation in distributed control systems. , 2009, , .		16
64	Scaling Laws for Consensus Protocols Subject to Noise. IEEE Transactions on Automatic Control, 2019, 64, 1389-1402.	3.6	16
65	Non-Bayesian Social Learning With Uncertain Models. IEEE Transactions on Signal Processing, 2020, 68, 4178-4193.	3.2	15
66	Bayesian Decision Making in Groups is Hard. Operations Research, 2021, 69, 632-654.	1.2	15
67	Necessary and sufficient conditions for consensus over random independent and identically distributed switching graphs. , 2007, , .		14
68	(Non-)Bayesian learning without recall. , 2014, , .		14
69	Scheduling nonlinear sensors for stochastic process estimation. , 2017, , .		14
70	A distributed line search for network optimization. , 2012, , .		13
71	Network Inference From Consensus Dynamics With Unknown Parameters. IEEE Transactions on Signal and Information Processing Over Networks, 2020, 6, 300-315.	1.6	13
72	Distributed topology control of dynamic networks. , 2008, , .		11

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73	Sensing-Constrained LQG Control. , 2018, , .		11
74	Combinatorial bounds and scaling laws for noise amplification in networks. , 2013, , .		11
75	On dual convergence of the distributed Newton method for Network Utility Maximization. , 2011, , .		10
76	Non-Bayesian Social Learning with Uncertain Models over Time-Varying Directed Graphs. , 2019, , .		10
77	A separation theorem for joint sensor and actuator scheduling with guaranteed performance bounds. Automatica, 2020, 119, 109054.	3.0	10
78	Notes on averaging over acyclic digraphs and discrete coverage control. , 2006, , .		9
79	Learning to Coordinate in Social Networks. Operations Research, 2016, 64, 605-621.	1.2	9
80	Distributed control of the Laplacian spectral moments of a network. , 2010, , .		8
81	A distributed newton method for dynamic Network Utility Maximization with delivery contracts. , 2012, , .		8
82	On consensus and exponentially fast social learning. , 2012, , .		8
83	Duopoly pricing game in networks with local coordination effects. , 2012, , .		8
84	Learning without recall in directed circles and rooted trees. , 2015, , .		8
85	Receding Horizon Control of Spatially Distributed Systems over Arbitrary Graphs. , 2006, , .		7
86	Towards simplicial coverage repair for mobile robot teams. , 2010, , .		7
87	Bayesian Quadratic Network Game filters. , 2013, , .		7
88	Optimal Control of Spatially Distributed Systems. Proceedings of the American Control Conference, 2007, , .	0.0	6
89	From local measurements to network spectral properties: Beyond degree distributions. , 2010, , .		6
90	Network optimization under uncertainty. , 2012, , .		6

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91	Targeted marketing and seeding products with positive externality. , 2012, , .		6
92	Finite-time analysis of the distributed detection problem. , 2015, , .		6
93	Optimal distributed control for platooning via sparse coprime factorizations. , 2016, , .		6
94	Robust and Adaptive Sequential Submodular Optimization. IEEE Transactions on Automatic Control, 2022, 67, 89-104.	3.6	6
95	On Increasing Self-Confidence in Non-Bayesian Social Learning over Time-Varying Directed Graphs. , 2019, , .		6
96	Learning under social influence. , 2009, , .		5
97	Variance analysis of randomized consensus in switching directed networks. , 2010, , .		5
98	On consensus in a correlated model of network formation based on a Polya urn process. , 2011, , .		5
99	Aggregate observational distinguishability is necessary and sufficient for social learning. , 2011, , .		5
100	Multi-agent flocking with random communication radius. , 2012, , .		5
101	A connectivity preserving containment control strategy for unicycles with static leaders. , 2012, , .		5
102	Structured coprime factorizations description of Linear and Time-Invariant networks. , 2013, , .		5
103	Optimal budget allocation in social networks: Quality or seeding?. , 2014, , .		5
104	Resilient Monotone Sequential Maximization. , 2018, , .		5
105	Path planning for multiple robots: An alternative duality approach. , 2010, , .		4
106	On asymptotic consensus value in directed random networks. , 2010, , .		4
107	Spectral control of mobile robot networks. , 2011, , .		4
108	Dynamic games with side information in economic networks. , 2012, , .		4

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109	Learning without Recall from actions of neighbors. , 2016, , .		4
110	Deterministic Polynomial-Time Actuator Scheduling With Guaranteed Performance. , 2018, , .		4
111	Limitations and Tradeoffs in Minimum Input Selection Problems. , 2018, , .		4
112	Non-Bayesian Social Learning with Gaussian Uncertain Models. , 2020, , .		4
113	A General Framework for Distributed Inference With Uncertain Models. IEEE Transactions on Signal and Information Processing Over Networks, 2021, 7, 392-405.	1.6	4
114	A duality approach to path planning for multiple robots. , 2010, , .		3
115	Consensus over martingale graph processes. , 2012, , .		3
116	Complexity of Bayesian belief exchange over a network. , 2017, , .		3
117	Minimal Reachability is Hard To Approximate. IEEE Transactions on Automatic Control, 2018, , 1-1.	3.6	3
118	An Optimal Transport Approach to Personalized Federated Learning. IEEE Journal on Selected Areas in Information Theory, 2022, 3, 162-171.	1.9	3
119	Inference in Opinion Dynamics Under Social Pressure. IEEE Transactions on Automatic Control, 2023, 68, 3377-3392.	3.6	3
120	Analysis of equilibria and strategic interaction in complex networks. , 2011, , .		2
121	IEEE Transactions on Network Science and Engineering. IEEE Transactions on Network Science and Engineering, 2014, 1, 2-9.	4.1	2
122	Naive social learning in Ising networks. , 2016, , .		2
123	An operator theoretic framework for analysis of large-scale quadratic programming. , 2007, , .		1
124	Determining interconnections in biochemical networks using linear programming. , 2008, , .		1
125	Distributed computation of a sparse cover in sensor networks without location information. , 2008, , .		1
126	Moment-based analysis of synchronization in small-world networks of oscillators. , 2009, , .		1

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127	A topological view of estimation from noisy relative measurements. , 2011, , .		1
128	On convergence rate of Accelerated Dual Descent Algorithm. , 2014, , .		1
129	Discounted integral priority routing for data networks. , 2014, , .		1
130	Tests for Network Cascades via Branching Processes. IEEE Transactions on Network Science and Engineering, 2020, 7, 2693-2701.	4.1	1
131	The effect of drone strikes on civilian communication: evidence from Yemen. Political Science Research and Methods, 0, , 1-9.	1.7	1
132	Strategic Information Diffusion. Performance Evaluation Review, 2014, 42, 20-23.	0.4	1
133	Spectral analysis of dynamically evolving networks with linear preferential attachment. , 2009, , .		0
134	Asymptotic analysis of quadratic error of consensus in large-scale random directed networks. , 2009, , .		0
135	On convergence of beliefs in a non-Bayesian model of learning. , 2010, , .		0
136	Game theoretic analysis of customer subscription decisions in networks with positive externality. , 2012, , .		0
137	Information aggregation in a beauty contest game. , 2014, , .		0
138	State of the Journal Editorial. IEEE Transactions on Network Science and Engineering, 2017, 4, 72-73.	4.1	0
139	Local Optimality of Almost Piecewise-Linear Quantizers for Witsenhausen's Problem. IEEE Transactions on Automatic Control, 2021, 66, 3152-3168.	3.6	0
140	Toward Active Sequential Hypothesis Testing with Uncertain Models. , 2021, , .		0