P R Kumar

List of Publications by Year
in descending order

54 papers	1,944 citations	471509 17 h-index	580821 25 g-index
54 all docs	54 docs citations	54 times ranked	2008 citing authors

#	Article	IF	Citations
1	Cyber–Physical Systems: A Perspective at the Centennial. Proceedings of the IEEE, 2012, 100, 1287-1308.	21.3	502
2	Dimensionality Reduction of Synchrophasor Data for Early Event Detection: Linearized Analysis. IEEE Transactions on Power Systems, 2014, 29, 2784-2794.	6.5	201
3	A Theory of QoS for Wireless. , 2009, , .		200
4	Dynamic Watermarking: Active Defense of Networked Cyber–Physical Systems. Proceedings of the IEEE, 2017, 105, 219-240.	21.3	164
5	An MPC-Based Approach to Provable System-Wide Safety and Liveness of Autonomous Ground Traffic. IEEE Transactions on Automatic Control, 2014, 59, 3341-3356.	5.7	133
6	An Online Detection Framework for Cyber Attacks on Automatic Generation Control. IEEE Transactions on Power Systems, 2018, 33, 6816-6827.	6.5	95
7	Scenario-Based Economic Dispatch With Uncertain Demand Response. IEEE Transactions on Smart Grid, 2019, 10, 1858-1868.	9.0	65
8	Scenario-Based Economic Dispatch With Tunable Risk Levels in High-Renewable Power Systems. IEEE Transactions on Power Systems, 2019, 34, 5103-5114.	6.5	43
9	Optimal Function Computation in Directed and Undirected Graphs. IEEE Transactions on Information Theory, 2012, 58, 3407-3418.	2.4	41
10	Utility-optimal scheduling in time-varying wireless networks with delay constraints. , 2010, , .		40
11	Throughput Optimal Decentralized Scheduling of Multihop Networks With End-to-End Deadline Constraints: Unreliable Links. IEEE Transactions on Automatic Control, 2019, 64, 127-142.	5.7	37
12	A Synchrophasor Data-Driven Method for Forced Oscillation Localization Under Resonance Conditions. IEEE Transactions on Power Systems, 2020, 35, 3927-3939.	6.5	32
13	Are We Connected? Optimal Determination of Source–Destination Connectivity in Random Networks. IEEE/ACM Transactions on Networking, 2017, 25, 751-764.	3.8	31
14	Architecture and Algorithms for Privacy Preserving Thermal Inertial Load Management by a Load Serving Entity. IEEE Transactions on Power Systems, 2017, 32, 3275-3286.	6.5	24
15	Real-Time Middleware for Networked Control Systems and Application to an Unstable System. IEEE Transactions on Control Systems Technology, 2013, 21, 1898-1906.	5.2	22
16	Real-time communication over unreliable wireless links: a theory and its applications. IEEE Wireless Communications, 2012, 19, 48-59.	9.0	21
17	Power system event classification via dimensionality reduction of synchrophasor data. , 2014, , .		21
18	Queueing systems with hard delay constraints: a framework for real-time communication over unreliable wireless channels. Queueing Systems, 2012, 71, 151-177.	0.9	19

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19	Optimal Computation of Symmetric Boolean Functions in Collocated Networks. IEEE Journal on Selected Areas in Communications, 2013, 31, 639-654.	14.0	18
20	Prolog to the Section on Cyber–Physical Systems. Proceedings of the IEEE, 2012, 100, 1285-1286.	21.3	17
21	Decentralized throughput maximizing policies for deadline-constrained wireless networks. , 2015, , .		17
22	A Risk-Sensitive Approach for Packet Inter-Delivery Time Optimization in Networked Cyber-Physical Systems. IEEE/ACM Transactions on Networking, 2018, 26, 1976-1989.	3.8	17
23	Localization of forced oscillations in the power grid under resonance conditions. , 2018, , .		17
24	On the Design of Security-Guaranteeing Dynamic Watermarks. , 2020, 4, 307-312.		14
25	Decentralized Control via Dynamic Stochastic Prices: The Independent System Operator Problem. IEEE Transactions on Automatic Control, 2018, 63, 3206-3220.	5.7	13
26	Fluctuation analysis of debt based policies for wireless networks with hard delay constraints. , 2014, , .		12
27	Optimality of periodwise static priority policies in real-time communications. , 2011, , .		10
28	TrackMAC: An IEEE 802.11ad-compatible beam tracking-based MAC protocol for 5G millimeter-wave local area networks. , 2018, , .		10
29	Scheduling Periodic Real-Time Tasks with Heterogeneous Reward Requirements. , 2011, , .		9
30	Pathwise performance of debt based policies for wireless networks with hard delay constraints. , 2013, , .		9
31	Towards provably safe mixed transportation systems with human-driven and automated vehicles. , 2015, , .		9
32	A System-Theoretic Clean Slate Approach to Provably Secure Ad-Hoc Wireless Networking. IEEE Transactions on Control of Network Systems, 2016, 3, 206-217.	3.7	8
33	Optimal Information Updating based on Value of Information. , 2019, , .		8
34	Dimensionality reduction and early event detection using online synchrophasor data. , 2013, , .		7
35	Adaptive CSMA for Decentralized Scheduling of Multi-Hop Networks With End-to-End Deadline Constraints. IEEE/ACM Transactions on Networking, 2021, 29, 1224-1237.	3.8	7
36	Optimal energy-efficient regular delivery of packets in cyber-physical systems. , 2015, , .		6

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37	Incentive Compatibility in Stochastic Dynamic Systems. IEEE Transactions on Automatic Control, 2021, 66, 651-666.	5.7	6
38	Towards safety of transportation systems with a mixture of automated and human-driven vehicles. , 2016, , .		5
39	PMU-based reduced-order modeling of power system dynamics via selective modal analysis. , 2016, , .		5
40	Optimal Control of Thermostatic Loads for Planning Aggregate Consumption: Characterization of Solution and Explicit Strategies. , 2019, 3, 877-882.		5
41	The Trade-Off Between Privacy and Fidelity via Ehrhart Theory. IEEE Transactions on Information Theory, 2020, 66, 2549-2569.	2.4	4
42	A Hierarchical Low-Rank Approximation Based Network Solver for EMT Simulation. IEEE Transactions on Power Delivery, 2021, 36, 280-288.	4.3	4
43	Near-Optimal Quantization and Linear Network Coding for Relay Networks. IEEE Transactions on Information Theory, 2013, 59, 2777-2793.	2.4	3
44	The Strategic LQG System: A Dynamic Stochastic VCG Framework for Optimal Coordination. , 2018, , .		3
45	On the optimality of de-synchronized demand response with stochastic renewables and inertial thermal loads. , 2013, , .		2
46	Optimal demand response for thermal inertial loads employing stochastic renewables: A privacy respecting architecture and its continuum scaling limit. , 2014, , .		2
47	A control system framework for privacy preserving demand response of thermal inertial loads. , 2015, , .		2
48	VLSI architecture for exciter, governor, and stabilizer in fast power system EMT simulation. , 2018, , .		1
49	Probability-based Collision Detection and Resolution of Planned Trajectories for Unmanned Aircraft System Traffic Management. , 2019, , .		1
50	Cyber-Security through Dynamic Watermarking for 2-rotor Aerial Vehicle Flight Control Systems. , 2021, , .		1
51	The RBMLE method for Reinforcement Learning. , 2022, , .		1
52	A clean slate design for secure wireless ad-hoc networks — Part 2: Open unsynchronized networks. , 2015, , .		0
53	Outlier rejection for networked control systems based on middleware. , 2017, , .		0
54	An Efficient Network Solver for Electromagnetic Transient Simulation of Power Systems Based on Hierarchical Inverse Computation and Modification. , 2021, , .		0