Jay A Farrell

List of Publications by Citations

132 papers	5,542 citations	38 h-index	73 g-index
150 ext. papers	6,937 ext. citations	3.8 avg, IF	5.91 L-index

#	Paper	IF	Citations
132	Command Filtered Backstepping. *IEEE Transactions on Automatic Control*, **2009**, 54, 1391-1395	5.9	525
131	Command Filtered Adaptive Backstepping. *IEEE Transactions on Control Systems Technology*, **2012**, 20, 566-580	4.8	382
130	**2006**,		328
129	Backstepping-Based Flight Control with Adaptive Function Approximation. *Journal of Guidance, Control, and Dynamics*, **2005**, 28, 1089-1102	2.1	232
128	. *IEEE Transactions on Circuits and Systems*, **1989**, 36, 229-243		223
127	Cooperative Control of Multiple Nonholonomic Mobile Agents. *IEEE Transactions on Automatic Control*, **2008**, 53, 1434-1448	5.9	206
126	Distributed Continuous-Time Optimization: Nonuniform Gradient Gains, Finite-Time Convergence, and Convex Constraint Set. *IEEE Transactions on Automatic Control*, **2017**, 62, 2239-2253	5.9	168
125	Autonomous Underwater Vehicle Navigation. *IEEE Journal of Oceanic Engineering*, **2010**, 35, 663-678	3.3	164
124	Filament-Based Atmospheric Dispersion Model to Achieve Short Time-Scale Structure of Odor Plumes. *Environmental Fluid Mechanics*, **2002**, 2, 143-169	2.2	161
123	Information Weighted Consensus Filters and Their Application in Distributed Camera Networks. *IEEE Transactions on Automatic Control*, **2013**, 58, 3112-3125	5.9	156
122	Moth-inspired chemical plume tracing on an autonomous underwater vehicle **2006**, 22, 292-307		153
121	Chemical plume source localization. *IEEE Transactions on Systems, Man, and Cybernetics*, **2006**, 36, 1068-80		141
120	Chemical plume tracing via an autonomous underwater vehicle. *IEEE Journal of Oceanic Engineering*, **2005**, 30, 428-442	3.3	129
119	. *Control Systems Magazine*, **1990**, 10, 6-17		126
118	Tracking and activity recognition through consensus in distributed camera networks. *IEEE Transactions on Image Processing*, **2010**, 19, 2564-79	8.7	109
117	Real-Time Computer Vision/DGPS-Aided Inertial Navigation System for Lane-Level Vehicle Navigation. *IEEE Transactions on Intelligent Transportation Systems*, **2012**, 13, 899-913	6.1	108
116	Plume mapping via hidden Markov methods. *IEEE Transactions on Systems, Man, and Cybernetics*, **2003**, 33, 850-63		108

115	Decentralized cooperative control of multiple nonholonomic dynamic systems with uncertainty. *Automatica*, **2009**, 45, 706-710	5.7	101
114	Adaptive observer backstepping control using neural networks. *IEEE Transactions on Neural Networks*, **2001**, 12, 1103-12		96
113	Real-time differential carrier phase GPS-aided INS. *IEEE Transactions on Control Systems Technology*, **2000**, 8, 709-721	4.8	95
112	Tracking of Fluid-Advected Odor Plumes: Strategies Inspired by Insect Orientation to Pheromone. *Adaptive Behavior*, **2001**, 9, 143-170	1.1	91
111	Stability and approximator convergence in nonparametric nonlinear adaptive control. *IEEE Transactions on Neural Networks*, **1998**, 9, 1008-20		88
110	Collaborative sensing in a distributed PTZ camera network. *IEEE Transactions on Image Processing*, **2012**, 21, 3282-95	8.7	79
109	Wavelet-based system identification for nonlinear control. *IEEE Transactions on Automatic Control*, **1999**, 44, 412-417	5.9	79
108	Composite adaptive control with locally weighted statistical learning. *Neural Networks*, **2005**, 18, 71-90	9.1	75
107	. *IEEE Transactions on Circuits and Systems*, **1990**, 37, 877-884		72
106	. *IEEE Control Systems*, **1993**, 13, 40-49	2.9	65
105	. *IEEE Transactions on Circuits and Systems*, **1990**, 37, 1356-1366		62
104	Distributed Camera Networks. *IEEE Signal Processing Magazine*, **2011**, 28, 20-31	9.4	61
103	Formation control of multiple underactuated surface vessels. *IET Control Theory and Applications*, **2008**, 2, 1077-1085	2.5	60
102	Distributed Multi-Target Tracking and Data Association in Vision Networks. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2016**, 38, 1397-410	13.3	53
101	Inertial Navigation Aiding by Stationary Updates. *IEEE Transactions on Intelligent Transportation Systems*, **2012**, 13, 235-248	6.1	49
100	Tracking control of a manipulator under uncertainty by FUZZY P+ID controller. *Fuzzy Sets and Systems*, **2001**, 122, 125-137	3.7	48
99	Magnetometer and differential carrier phase GPS-aided INS for advanced vehicle control. *IEEE Transactions on Automation Science and Engineering*, **2003**, 19, 269-282		47
98	High-Precision Vehicle Navigation in Urban Environments Using an MEMS IMU and Single-Frequency GPS Receiver. *IEEE Transactions on Intelligent Transportation Systems*, **2016**, 17, 2854-2867	6.1	46

97	Carrier Phase GPS-Aided INS-Based Vehicle Lateral Control. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2003**, 125, 339-353	1.6	42
96	Nonlinear adaptive control using networks of piecewise linear approximators. *IEEE Transactions on Neural Networks*, **2000**, 11, 390-401		42
95	Differential GPS reference station algorithm-design and analysis. *IEEE Transactions on Control Systems Technology*, **2000**, 8, 519-531	4.8	40
94	**2010**,		35
93	A Generalized Kalman Consensus Filter for wide-area video networks **2011**,		34
92	Information weighted consensus **2012**,		33
91	Design of an enhanced hybrid fuzzy P+ID controller for a mechanical manipulator. *IEEE Transactions on Systems, Man, and Cybernetics*, **2001**, 31, 938-45		33
90	Decentralized camera network control using game theory **2008**,		30
89	Underwater Inertial Navigation With Long Baseline Transceivers: A Near-Real-Time Approach. *IEEE Transactions on Control Systems Technology*, **2016**, 24, 240-251	4.8	25
88	Tracking control for nonaffine systems: a self-organizing approximation approach. *IEEE Transactions on Neural Networks and Learning Systems*, **2012**, 23, 223-35	10.3	24
87	Persistence of excitation conditions in passive learning control. *Automatica*, **1997**, 33, 699-703	5.7	24
86	Adaptive control for output feedback nonlinear systems in the presence of modeling errors. *Automatica*, **2002**, 38, 1761-1767	5.7	23
85	. *IEEE Intelligent Transportation Systems Magazine*, **2013**, 5, 121-135	2.6	22
84	Command filtered backstepping **2008**,		21
83	Two antennas GPS-aided INS for attitude determination. *IEEE Transactions on Control Systems Technology*, **2003**, 11, 905-918	4.8	20
82	Information Consensus for Distributed Multi-target Tracking **2013**,		18
81	Indoor localization based on LEDs **2011**,		17
80	Distributed optimization with the consideration of adaptivity and finite-time convergence **2014**,		16

79	Locally Weighted Online Approximation-Based Control for Nonaffine Systems. *IEEE Transactions on Neural Networks*, **2007**, 18, 1709-1724		15
78	Longitudinal Flight-Path Control Using Online Function Approximation. *Journal of Guidance, Control, and Dynamics*, **2003**, 26, 885-897	2.1	15
77	Computationally Efficient Carrier Integer Ambiguity Resolution in Multiepoch GPS/INS: A Common-Position-Shift Approach. *IEEE Transactions on Control Systems Technology*, **2016**, 24, 1541-1556	4.8	13
76	Differential GPS aided Inertial Navigation: a Contemplative Realtime Approach. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 8959-8964		12
75	2D LIDAR Aided INS for vehicle positioning in urban environments **2013**,		12
74	Traffic sign detection, state estimation, and identification using onboard sensors **2013**,		12
73	Consensus of multiple nonholonomic systems **2008**,		12
72	Self-organizing approximation-based control for higher order systems. *IEEE Transactions on Neural Networks*, **2007**, 18, 1220-31		12
71	GPS-INS outlier detection & elimination using a sliding window filter **2017**,		11
70	Distributed Constrained Optimization for Bayesian Opportunistic Visual Sensing. *IEEE Transactions on Control Systems Technology*, **2014**, 22, 2302-2318	4.8	10
69	Localized adaptive bounds for approximation-based backstepping. *Automatica*, **2008**, 44, 2607-2613	5.7	10
68	Decentralized cooperative control of multiple nonholonomic systems **2007**,		10
67	. *IEEE Journal of Oceanic Engineering*, **1993**, 18, 311-318	3.3	10
66	Opportunistic Image Acquisition of Individual and Group Activities in a Distributed Camera Network. *IEEE Transactions on Circuits and Systems for Video Technology*, **2017**, 27, 664-672	6.4	9
65	Feature mapping and state estimation for highly automated vehicles. *Journal of Control and Decision*, **2015**, 2, 1-25	0.9	8
64	On performance evaluation in online approximation for control. *IEEE Transactions on Neural Networks*, **1998**, 9, 1001-7		8
63	H/sub /spl infin// identification of multivariable systems by tangential interpolation methods. *IEEE Transactions on Automatic Control*, **1996**, 41, 1822-1828	5.9	8
62	**2013**,		7

61	Observability analysis of an inertial navigation system with stationary updates **2011**,		7
60	Latency Compensation for Differential GPS. *Navigation, Journal of the Institute of Navigation*, **1997**, 44, 99-107	2.3	7
59	Land vehicle control using a command filtered backstepping approach **2008**,		7
58	A Computationally Efficient Algorithm for Training Recurrent Connectionist Networks **1992**,		7
57	. *IEEE Transactions on Control Systems Technology*, **2017**, 25, 247-261	4.8	6
56	Advanced Vehicle State Estimation: A Tutorial and Comparative Study. *IFAC-PapersOnLine*, **2017**, 50, 15971-15976	7.1	6
55	**2011**,		6
54	AUV reactive planning: deepest point **2003**,		6
53	Initial Development and Testing of an Adaptive Mission Planner for a Small Unmanned Underwater Vehicle **2003**,		6
52	Performance Specified State Estimation With Minimum Risk **2018**,		6
51	Underwater vehicle near real time state estimation **2013**,		5
50	**2013**,		5
49	Tracking control of multiple nonlinear systems via information interchange **2011**,		5
48	Biologically inspired chemical plume tracing on an autonomous underwater vehicle		5
47	GPS-aided INS based control state calculation for AHS **2001**,		5
46	. *IEEE Transactions on Aerospace and Electronic Systems*, **2019**, 55, 2836-2849	3.7	4
45	Unifying behavior-based control design and hybrid stability theory **2009**,		4
44	Consensus-based distributed estimation in camera networks **2012**,		4

43	**2010**,		4
42	ECEF position accuracy and reliability in the presence of differential correction latency **2018**,		3
41	Distributed camera control via moving horizon Bayesian optimization **2014**,		3
40	Robust GPS-INS Outlier Accommodation: A Soft-thresholded Optimal Estimator. *IFAC-PapersOnLine* , **2017**, 50, 3574-3579	0.7	3
39	Underwater inertial navigation with long base line transceivers: A Near-Real-Time approach **2013**,		3
38	Optimization-based road curve fitting **2011**,		3
37	Near-real-time GPS integer ambiguity resolution **2011**,		3
36	Simulation and system identification of dynamic models for flocculation control. *Water Science and Technology*, **1998**, 37, 181-192	2.2	3
35	On-Line Approximation Control of Uncertain Nonlinear Systems: Issues With Control Input Saturation **2005**,		3
34	**2018**,		3
33	GNSS/INS Integration **2017**, 811-840		2
32	Optimal measurement location planning for localizing underwater transponders **2018**,		2
31	**2014**,		2
30	INS aided GPS integer ambiguity resolution **2011**,		2
29	Outlier accommodation in moving-horizon state estimation: A risk-averse performance-specified approach. *International Journal of Adaptive Control and Signal Processing*, **2020**, 34, 777-795	2.8	2
28	Calibration of Multi-LIDAR Systems: Application to Bucket Wheel Reclaimers. *IEEE Transactions on Control Systems Technology*, **2020**, 28, 2092-2103	4.8	2
27	Outlier Accommodation By Risk-Averse Performance-Specified Nonlinear State Estimation: GNSS Aided INS **2018**,		2
26	Outlier accommodation for meter-level positioning: Risk-averse performance-specified state estimation **2018**,		2

25	Vehicle ECEF Position Accuracy and Reliability in the Presence of DGNSS Communication Latency. *IEEE Intelligent Transportation Systems Magazine*, **2020**, 0-0	2.6	1
24	**2016**,		1
23	A Society of Volunteers [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-11	2.9	1
22	LED path recovery in a moving sensor. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 8965-8970		1
21	Roadway feature mapping from point cloud data: A graph-based clustering approach **2017**,		1
20	High reliability integer ambiguity resolution of 6DOF RTK GPS/INS **2014**,		1
19	Distributed control of multiple wheeled mobile robots **2011**,		1
18	Adaptive approximately optimal control of unknown nonlinear systems based on locally weighted learning **2009**,		1
17	Optimal tracking control for unknown nonlinear systems based on locally weighted learning **2008**,		1
16	Self-organizing approximation for controllable nonaffine systems **2007**,		1
15	State Estimation **2005**, 1049-1059		1
14	Calculation of discrete-time process noise statistics for hybrid continuous/discrete-time applications. *Optimal Control Applications and Methods*, **1996**, 17, 151-155	1.7	1
13	Persistent Observation of Dynamic Scenes in an Active Camera Network **2011**, 259-271		1
12	**2019**,		1
11	Performance-Specified Moving-Horizon State Estimation With Minimum Risk **2018**,		1
10	Distributed Time-Varying Optimization With State-Dependent Gains: Algorithms and Experiments. *IEEE Transactions on Control Systems Technology*, **2021**, 1-10	4.8	0
9	Impact of Control [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-16	2.9	
8	"Prediction Is Very Difficult, Especially About the Future" (Niels Bohr) [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-13	2.9	

List of Publications

7	Control Ambassadors [President's Message]. *IEEE Control Systems*, **2014**, 34, 12-98	2.9
6	The Perspective One Year Later [President's Message]. *IEEE Control Systems*, **2014**, 34, 12-14	2.9
5	51st IEEE Conference on Decision and Control, 2012 [Conference Reports]. *IEEE Control Systems*, **2013**, 33, 73-84	2.9
4	Robust Adaptive Approximation Based Backstepping via Localized Adaptive Bounding **2006**, 381-411	
3	Online Approximation-Based Aircraft State Estimation **2003**, 215-232	
2	Data Fusion via Kalman Filter: GPS and INS **2018**, 99-148	
1	Outlier Accommodation in Nonlinear State Estimation: A Risk-Averse Performance- Specified Approach. *IEEE Transactions on Control Systems Technology*, **2021**, 29, 567-579	4.8