Jay A Farrell

List of Publications by Year in Descending Order

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	Outlier Accommodation in Nonlinear State Estimation: A Risk-Averse Performance- Specified Approach. *IEEE Transactions on Control Systems Technology*, **2021**, 29, 567-579	4.8	
131	Distributed Time-Varying Optimization With State-Dependent Gains: Algorithms and Experiments. *IEEE Transactions on Control Systems Technology*, **2021**, 1-10	4.8	0
130	Vehicle ECEF Position Accuracy and Reliability in the Presence of DGNSS Communication Latency. *IEEE Intelligent Transportation Systems Magazine*, **2020**, 0-0	2.6	1
129	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
128	Calibration of Multi-LIDAR Systems: Application to Bucket Wheel Reclaimers. *IEEE Transactions on Control Systems Technology*, **2020**, 28, 2092-2103	4.8	2
127	. *IEEE Transactions on Aerospace and Electronic Systems*, **2019**, 55, 2836-2849	3.7	4
126	**2019**,		1
125	Optimal measurement location planning for localizing underwater transponders **2018**,		2
124	ECEF position accuracy and reliability in the presence of differential correction latency **2018**,		3
123	Data Fusion via Kalman Filter: GPS and INS **2018**, 99-148		
122	**2018**,		3
121	Outlier Accommodation By Risk-Averse Performance-Specified Nonlinear State Estimation: GNSS Aided INS **2018**,		2
120	Performance-Specified Moving-Horizon State Estimation With Minimum Risk **2018**,		1
119	Performance Specified State Estimation With Minimum Risk **2018**,		6
118	Outlier accommodation for meter-level positioning: Risk-averse performance-specified state estimation **2018**,		2
117	. *IEEE Transactions on Control Systems Technology*, **2017**, 25, 247-261	4.8	6
116	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

115	GNSS/INS Integration **2017**, 811-840		2
114	GPS-INS outlier detection & elimination using a sliding window filter **2017**,		11
113	Roadway feature mapping from point cloud data: A graph-based clustering approach **2017**,		1
112	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
111	Advanced Vehicle State Estimation: A Tutorial and Comparative Study. *IFAC-PapersOnLine*, **2017**, 50, 15971-15976	0.7	
110	Robust GPS-INS Outlier Accommodation: A Soft-thresholded Optimal Estimator. *IFAC-PapersOnLine*, **2017**, 50, 3574-3579	0.7	3
109	**2016**,		1
108	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
107	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
106	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
105	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
104	Feature mapping and state estimation for highly automated vehicles. *Journal of Control and Decision*, **2015**, 2, 1-25	0.9	8
103	Impact of Control [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-16	2.9	
102	Distributed camera control via moving horizon Bayesian optimization **2014**,		3
101	Distributed optimization with the consideration of adaptivity and finite-time convergence **2014**,		16
100	Distributed Constrained Optimization for Bayesian Opportunistic Visual Sensing. *IEEE Transactions on Control Systems Technology*, **2014**, 22, 2302-2318	4.8	10
99	Differential GPS aided Inertial Navigation: a Contemplative Realtime Approach. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 8959-8964		12
98	A Society of Volunteers [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-11	2.9	1

97	LED path recovery in a moving sensor. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 8965-8970		1
96	"Prediction Is Very Difficult, Especially About the Future" (Niels Bohr) [President's Message]. *IEEE Control Systems*, **2014**, 34, 10-13	2.9	
95	Control Ambassadors [President's Message]. *IEEE Control Systems*, **2014**, 34, 12-98	2.9	
94	The Perspective One Year Later [President's Message]. *IEEE Control Systems*, **2014**, 34, 12-14	2.9	
93	**2014**,		2
92	High reliability integer ambiguity resolution of 6DOF RTK GPS/INS **2014**,		1
91	2D LIDAR Aided INS for vehicle positioning in urban environments **2013**,		12
90	Information Weighted Consensus Filters and Their Application in Distributed Camera Networks. *IEEE Transactions on Automatic Control*, **2013**, 58, 3112-3125	5.9	156
89	Underwater inertial navigation with long base line transceivers: A Near-Real-Time approach **2013**,		3
88	Underwater vehicle near real time state estimation **2013**,		5
87	. *IEEE Intelligent Transportation Systems Magazine*, **2013**, 5, 121-135	2.6	22
86	**2013**,		7
85	**2013**,		5
84	Information Consensus for Distributed Multi-target Tracking **2013**,		18
83	Traffic sign detection, state estimation, and identification using onboard sensors **2013**,		12
82	51st IEEE Conference on Decision and Control, 2012 [Conference Reports]. *IEEE Control Systems*, **2013**, 33, 73-84	2.9	
81	Inertial Navigation Aiding by Stationary Updates. *IEEE Transactions on Intelligent Transportation Systems*, **2012**, 13, 235-248	6.1	49
80	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

79	Information weighted consensus **2012**,		33
78	Command Filtered Adaptive Backstepping. *IEEE Transactions on Control Systems Technology*, **2012**, 20, 566-580	4.8	382
77	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
76	Collaborative sensing in a distributed PTZ camera network. *IEEE Transactions on Image Processing*, **2012**, 21, 3282-95	8.7	79
75	Consensus-based distributed estimation in camera networks **2012**,		4
74	INS aided GPS integer ambiguity resolution **2011**,		2
73	Distributed Camera Networks. *IEEE Signal Processing Magazine*, **2011**, 28, 20-31	9.4	61
72	**2011**,		6
71	Optimization-based road curve fitting **2011**,		3
70	Distributed control of multiple wheeled mobile robots **2011**,		1
69	Tracking control of multiple nonlinear systems via information interchange **2011**,		5
68	Indoor localization based on LEDs **2011**,		17
67	Near-real-time GPS integer ambiguity resolution **2011**,		3
66	Observability analysis of an inertial navigation system with stationary updates **2011**,		7
65	A Generalized Kalman Consensus Filter for wide-area video networks **2011**,		34
64	Persistent Observation of Dynamic Scenes in an Active Camera Network **2011**, 259-271		1
63	**2010**,		35
62	Tracking and activity recognition through consensus in distributed camera networks. *IEEE Transactions on Image Processing*, **2010**, 19, 2564-79	8.7	109

61	**2010**,		4
60	Autonomous Underwater Vehicle Navigation. *IEEE Journal of Oceanic Engineering*, **2010**, 35, 663-678	3.3	164
59	Adaptive approximately optimal control of unknown nonlinear systems based on locally weighted learning **2009**,		1
58	Unifying behavior-based control design and hybrid stability theory **2009**,		4
57	Decentralized cooperative control of multiple nonholonomic dynamic systems with uncertainty. *Automatica*, **2009**, 45, 706-710	5.7	101
56	Command Filtered Backstepping. *IEEE Transactions on Automatic Control*, **2009**, 54, 1391-1395	5.9	525
55	Decentralized camera network control using game theory **2008**,		30
54	Cooperative Control of Multiple Nonholonomic Mobile Agents. *IEEE Transactions on Automatic Control*, **2008**, 53, 1434-1448	5.9	206
53	Formation control of multiple underactuated surface vessels. *IET Control Theory and Applications*, **2008**, 2, 1077-1085	2.5	60
52	Command filtered backstepping **2008**,		21
51	Consensus of multiple nonholonomic systems **2008**,		12
50	Optimal tracking control for unknown nonlinear systems based on locally weighted learning **2008**,		1
49	Land vehicle control using a command filtered backstepping approach **2008**,		7
48	Localized adaptive bounds for approximation-based backstepping. *Automatica*, **2008**, 44, 2607-2613	5.7	10
47	Self-organizing approximation-based control for higher order systems. *IEEE Transactions on Neural Networks*, **2007**, 18, 1220-31		12
46	Locally Weighted Online Approximation-Based Control for Nonaffine Systems. *IEEE Transactions on Neural Networks*, **2007**, 18, 1709-1724		15
45	Self-organizing approximation for controllable nonaffine systems **2007**,		1
44	Decentralized cooperative control of multiple nonholonomic systems **2007**,		10

43	Robust Adaptive Approximation Based Backstepping via Localized Adaptive Bounding **2006**, 381-411		
42	Moth-inspired chemical plume tracing on an autonomous underwater vehicle **2006**, 22, 292-307		153
41	Chemical plume source localization. *IEEE Transactions on Systems, Man, and Cybernetics*, **2006**, 36, 1068-80		141
40	**2006**,		328
39	Chemical plume tracing via an autonomous underwater vehicle. *IEEE Journal of Oceanic Engineering*, **2005**, 30, 428-442	3.3	129
38	Backstepping-Based Flight Control with Adaptive Function Approximation. *Journal of Guidance, Control, and Dynamics*, **2005**, 28, 1089-1102	2.1	232
37	Composite adaptive control with locally weighted statistical learning. *Neural Networks*, **2005**, 18, 71-90	9.1	75
36	State Estimation **2005**, 1049-1059		1
35	On-Line Approximation Control of Uncertain Nonlinear Systems: Issues With Control Input Saturation **2005**,		3
34	Longitudinal Flight-Path Control Using Online Function Approximation. *Journal of Guidance, Control, and Dynamics*, **2003**, 26, 885-897	2.1	15
33	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
32	Magnetometer and differential carrier phase GPS-aided INS for advanced vehicle control. *IEEE Transactions on Automation Science and Engineering*, **2003**, 19, 269-282		47
31	Plume mapping via hidden Markov methods. *IEEE Transactions on Systems, Man, and Cybernetics*, **2003**, 33, 850-63		108
30	Two antennas GPS-aided INS for attitude determination. *IEEE Transactions on Control Systems Technology*, **2003**, 11, 905-918	4.8	20
29	AUV reactive planning: deepest point **2003**,		6
28	Initial Development and Testing of an Adaptive Mission Planner for a Small Unmanned Underwater Vehicle **2003**,		6
27	Online Approximation-Based Aircraft State Estimation **2003**, 215-232		
26	Adaptive control for output feedback nonlinear systems in the presence of modeling errors. *Automatica*, **2002**, 38, 1761-1767	5.7	23

25	Filament-Based Atmospheric Dispersion Model to Achieve Short Time-Scale Structure of Odor Plumes. *Environmental Fluid Mechanics*, **2002**, 2, 143-169	2.2	161
24	Tracking control of a manipulator under uncertainty by FUZZY P+ID controller. *Fuzzy Sets and Systems*, **2001**, 122, 125-137	3.7	48
23	Tracking of Fluid-Advected Odor Plumes: Strategies Inspired by Insect Orientation to Pheromone. *Adaptive Behavior*, **2001**, 9, 143-170	1.1	91
22	GPS-aided INS based control state calculation for AHS **2001**,		5
21	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
20	Adaptive observer backstepping control using neural networks. *IEEE Transactions on Neural Networks*, **2001**, 12, 1103-12		96
19	Real-time differential carrier phase GPS-aided INS. *IEEE Transactions on Control Systems Technology*, **2000**, 8, 709-721	4.8	95
18	Differential GPS reference station algorithm-design and analysis. *IEEE Transactions on Control Systems Technology*, **2000**, 8, 519-531	4.8	40
17	Nonlinear adaptive control using networks of piecewise linear approximators. *IEEE Transactions on Neural Networks*, **2000**, 11, 390-401		42
16	Wavelet-based system identification for nonlinear control. *IEEE Transactions on Automatic Control*, **1999**, 44, 412-417	5.9	79
15	On performance evaluation in online approximation for control. *IEEE Transactions on Neural Networks*, **1998**, 9, 1001-7		8
14	Stability and approximator convergence in nonparametric nonlinear adaptive control. *IEEE Transactions on Neural Networks*, **1998**, 9, 1008-20		88
13	Simulation and system identification of dynamic models for flocculation control. *Water Science and Technology*, **1998**, 37, 181-192	2.2	3
12	Latency Compensation for Differential GPS. *Navigation, Journal of the Institute of Navigation*, **1997**, 44, 99-107	2.3	7
11	Persistence of excitation conditions in passive learning control. *Automatica*, **1997**, 33, 699-703	5.7	24
10	H/sub /spl infin// identification of multivariable systems by tangential interpolation methods. *IEEE Transactions on Automatic Control*, **1996**, 41, 1822-1828	5.9	8
9	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
8	. *IEEE Journal of Oceanic Engineering*, **1993**, 18, 311-318	3.3	10

List of Publications

7   *. IEEE Control Systems*, **1993**, 13, 40-49   2.9   65

6   A Computationally Efficient Algorithm for Training Recurrent Connectionist Networks **1992**,   7

5   *. IEEE Transactions on Circuits and Systems*, **1990**, 37, 877-884   72

4   *. IEEE Transactions on Circuits and Systems*, **1990**, 37, 1356-1366   62

3   *. Control Systems Magazine*, **1990**, 10, 6-17   126

2   *. IEEE Transactions on Circuits and Systems*, **1989**, 36, 229-243   223

1   Biologically inspired chemical plume tracing on an autonomous underwater vehicle   5