Timothy D Barfoot

List of Publications by Year
in descending order

35 papers	**1,887** citations	687363 **13** h-index	713466 **21** g-index
36 all docs	**36** docs citations	**36** times ranked	**1297** citing authors

#	Article	IF	Citations
1	Koopman Linearization for Data-Driven Batch State Estimation of Control-Affine Systems. IEEE Robotics and Automation Letters, 2022, 7, 866-873.	5.1	1
2	Vectorial parameterizations of pose. Robotica, 2022, 40, 2409-2427.	1.9	3
3	Zeus: A system description of the two‑time winner of the collegiate SAE autodrive competition. Journal of Field Robotics, 2021, 38, 139-166.	6.0	8
4	Do We Need to Compensate for Motion Distortion and Doppler Effects in Spinning Radar Navigation?. IEEE Robotics and Automation Letters, 2021, 6, 771-778.	5.1	39
5	Unsupervised Learning of Lidar Features for Use ina Probabilistic Trajectory Estimator. IEEE Robotics and Automation Letters, 2021, 6, 2130-2138.	5.1	7
6	UAV Localization Using Autoencoded Satellite Images. IEEE Robotics and Automation Letters, 2021, 6, 1761-1768.	5.1	19
7	Relatively Lazy: Indoor-Outdoor Navigation Using Vision and GNSS. , 2021, , .		6
8	Visual Localization with Google Earth Images for Robust Global Pose Estimation of UAVs. , 2020, , .		28
9	Variational Inference With Parameter Learning Applied to Vehicle Trajectory Estimation. IEEE Robotics and Automation Letters, 2020, 5, 5291-5298.	5.1	10
10	Exactly sparse Gaussian variational inference with application to derivative-free batch nonlinear state estimation. International Journal of Robotics Research, 2020, 39, 1473-1502.	8.5	12
11	A Data-Driven Motion Prior for Continuous-Time Trajectory Estimation on $SE(3)$. IEEE Robotics and Automation Letters, 2020, 5, 1429-1436.	5.1	13
12	Batch Informed Trees (BIT*): Informed asymptotically optimal anytime search. International Journal of Robotics Research, 2020, 39, 543-567.	8.5	66
13	A Perception-Aware Flatness-Based Model Predictive Controller for Fast Vision-Based Multirotor Flight. IFAC-PapersOnLine, 2020, 53, 9412-9419.	0.9	3
14	A White-Noise-on-Jerk Motion Prior for Continuous-Time Trajectory Estimation on <italic>SE(3)</italic>. IEEE Robotics and Automation Letters, 2019, 4, 594-601.	5.1	16
15	There's No Place Like Home: Visual Teach and Repeat for Emergency Return of Multirotor UAVs During GPS Failure. IEEE Robotics and Automation Letters, 2019, 4, 161-168.	5.1	33
16	Learning a Bias Correction for Lidar-Only Motion Estimation. , 2018, , .		19
17	Informed Sampling for Asymptotically Optimal Path Planning. IEEE Transactions on Robotics, 2018, 34, 966-984.	10.3	99
18	Night Rider: Visual Odometry Using Headlights. , 2017, , .		5

#	Article	IF	Citations
19	Batch nonlinear continuous-time trajectory estimation as exactly sparse Gaussian process regression. Autonomous Robots, 2015, 39, 221-238.	4.8	56
20	Batch Informed Trees (BIT*): Sampling-based optimal planning via the heuristically guided search of implicit random geometric graphs. , 2015, , .		258
21	Full STEAM ahead: Exactly sparse gaussian process regression for batch continuous-time trajectory estimation on SE(3). , 2015, , .		54
22	Continuous-time batch trajectory estimation using temporal basis functions. International Journal of Robotics Research, 2015, 34, 1688-1710.	8.5	49
23	Associating Uncertainty With Three-Dimensional Poses for Use in Estimation Problems. IEEE Transactions on Robotics, 2014, 30, 679-693.	10.3	203
24	Towards relative continuous-time SLAM. , 2013, , .		35
25	Gaussian Process Gaussâ€"Newton for non-parametric simultaneous localization and mapping. International Journal of Robotics Research, 2013, 32, 507-525.	8.5	43
26	Two-axis scanning lidar geometric calibration using intensity imagery and distortion mapping. , 2013, , .		4
27	Gaussian Process Gauss-Newton for 3D laser-based Visual Odometry. , 2013, , .		16
28	Lightingâ€invariant Visual Teach and Repeat Using Appearanceâ€based Lidar. Journal of Field Robotics, 2013, 30, 254-287.	6.0	34
29	RANSAC for motion-distorted 3D visual sensors. , 2013, , .		23
30	Exploiting Reusable Paths in Mobile Robotics: Benefits and Challenges for Long-term Autonomy. , 2012, , .		7
31	Gaussian Process Gauss-Newton: Non-Parametric State Estimation. , 2012, , .		18
32	Visual Teach and Repeat using appearance-based lidar. , 2012, , .		25
33	Pose estimation using linearized rotations and quaternion algebra. Acta Astronautica, 2011, 68, 101-112.	3.2	56
34	Towards appearance-based methods for lidar sensors. , 2011, , .		29
35	Visual teach and repeat for longâ€range rover autonomy. Journal of Field Robotics, 2010, 27, 534-560.	6.0	195