

# Shen, Shaojie

## List of Publications by Year in descending order

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96  
papers

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304743

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96  
docs citations

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times ranked

3173  
citing authors

#	ARTICLE	IF	CITATIONS
1	VINS-Mono: A Robust and Versatile Monocular Visual-Inertial State Estimator. IEEE Transactions on Robotics, 2018, 34, 1004-1020.	10.3	2,141
2	A Survey on Aerial Swarm Robotics. IEEE Transactions on Robotics, 2018, 34, 837-855.	10.3	365
3	Robust and Efficient Quadrotor Trajectory Generation for Fast Autonomous Flight. IEEE Robotics and Automation Letters, 2019, 4, 3529-3536.	5.1	285
4	Monocular Visual-Inertial State Estimation With Online Initialization and Camera-IMU Extrinsic Calibration. IEEE Transactions on Automation Science and Engineering, 2017, 14, 39-51.	5.2	199
5	Autonomous aerial navigation using monocular visual-inertial fusion. Journal of Field Robotics, 2018, 35, 23-51.	6.0	151
6	Online Safe Trajectory Generation for Quadrotors Using Fast Marching Method and Bernstein Basis Polynomial. , 2018, , .		151
7	Tightly-coupled monocular visual-inertial fusion for autonomous flight of rotorcraft MAVs. , 2015, , .		148
8	Online Temporal Calibration for Monocular Visual-Inertial Systems. , 2018, , .		109
9	RAPTOR: Robust and Perception-Aware Trajectory Replanning for Quadrotor Fast Flight. IEEE Transactions on Robotics, 2021, 37, 1992-2009.	10.3	101
10	GVINS: Tightly Coupled GNSS-Visual-Inertial Fusion for Smooth and Consistent State Estimation. IEEE Transactions on Robotics, 2022, 38, 2004-2021.	10.3	101
11	Vision-Based State Estimation and Trajectory Control Towards High-Speed Flight with a Quadrotor. , 0, , .		98
12	FIESTA: Fast Incremental Euclidean Distance Fields for Online Motion Planning of Aerial Robots. , 2019, , .		94
13	Flying on point clouds: Online trajectory generation and autonomous navigation for quadrotors in cluttered environments. Journal of Field Robotics, 2019, 36, 710-733.	6.0	92
14	Stereo Vision-Based Semantic 3D Object and Ego-Motion Tracking for Autonomous Driving. Lecture Notes in Computer Science, 2018, , 664-679.	1.3	87
15	Monocular Visual-Inertial State Estimation for Mobile Augmented Reality. , 2017, , .		82
16	Event-Based Stereo Visual Odometry. IEEE Transactions on Robotics, 2021, 37, 1433-1450.	10.3	82
17	FUEL: Fast UAV Exploration Using Incremental Frontier Structure and Hierarchical Planning. IEEE Robotics and Automation Letters, 2021, 6, 779-786.	5.1	81
18	Teach-Repeat-Replan: A Complete and Robust System for Aggressive Flight in Complex Environments. IEEE Transactions on Robotics, 2020, 36, 1526-1545.	10.3	74

#	ARTICLE	IF	CITATIONS
19	Disturbance Observer Based Hovering Control of Quadrotor Tail-Sitter VTOL UAVs Using Synthesis. IEEE Robotics and Automation Letters, 2018, 3, 2910-2917.	5.1	73
20	Safe Trajectory Generation for Complex Urban Environments Using Spatio-Temporal Semantic Corridor. IEEE Robotics and Automation Letters, 2019, 4, 2997-3004.	5.1	72
21	Gradient-based online safe trajectory generation for quadrotor flight in complex environments. , 2017, , .		66
22	Online generation of collision-free trajectories for quadrotor flight in unknown cluttered environments. , 2016, , .		63
23	Online quadrotor trajectory generation and autonomous navigation on point clouds. , 2016, , .		62
24	An Efficient B-Spline-Based Kinodynamic Replanning Framework for Quadrotors. IEEE Transactions on Robotics, 2019, 35, 1287-1306.	10.3	62
25	Robust Real-time UAV Replanning Using Guided Gradient-based Optimization and Topological Paths. , 2020, , .		61
26	Survey of UAV motion planning. IET Cyber-Systems and Robotics, 2020, 2, 14-21.	1.8	60
27	Tracking a moving target in cluttered environments using a quadrotor. , 2016, , .		56
28	PIP: Planning-Informed Trajectory Prediction for Autonomous Driving. Lecture Notes in Computer Science, 2020, , 598-614.	1.3	56
29	Stochastic differential equation-based exploration algorithm for autonomous indoor 3D exploration with a micro-aerial vehicle. International Journal of Robotics Research, 2012, 31, 1431-1444.	8.5	55
30	Development and experimental verification of a hybrid vertical take-off and landing (VTOL) unmanned aerial vehicle(UAV). , 2017, , .		52
31	Design and implementation of a quadrotor tail-sitter VTOL UAV. , 2017, , .		44
32	ACT: An Autonomous Drone Cinematography System for Action Scenes. , 2018, , .		43
33	Relocalization, Global Optimization and Map Merging for Monocular Visual-Inertial SLAM. , 2018, , .		40
34	Real-time Scalable Dense Surfel Mapping. , 2019, , .		39
35	Robust camera motion estimation using direct edge alignment and sub-gradient method. , 2016, , .		36
36	Online Vehicle Trajectory Prediction using Policy Anticipation Network and optimization-based Context Reasoning. , 2019, , .		35

#	ARTICLE	IF	CITATIONS
37	Tracking 3-D Motion of Dynamic Objects Using Monocular Visual-Inertial Sensing. IEEE Transactions on Robotics, 2019, 35, 799-816.	10.3	35
38	Real-time monocular dense mapping on aerial robots using visual-inertial fusion. , 2017, , .		34
39	Model-Based Global Localization for Aerial Robots Using Edge Alignment. IEEE Robotics and Automation Letters, 2017, 2, 1256-1263.	5.1	30
40	Real-time safe trajectory generation for quadrotor flight in cluttered environments. , 2015, , .		29
41	Optimal Time Allocation for Quadrotor Trajectory Generation. , 2018, , .		29
42	Real-Time Temporal and Rotational Calibration of Heterogeneous Sensors Using Motion Correlation Analysis. IEEE Transactions on Robotics, 2021, 37, 587-602.	10.3	29
43	A unified control method for quadrotor tail-sitter UAVs in all flight modes: Hover, transition, and level flight. , 2017, , .		28
44	A GPS-aided Omnidirectional Visual-Inertial State Estimator in Ubiquitous Environments. , 2019, , .		25
45	Omni-Swarm: A Decentralized Omnidirectional Visual-Inertial-UWB State Estimation System for Aerial Swarms. IEEE Transactions on Robotics, 2022, 38, 3374-3394.	10.3	24
46	EPSILON: An Efficient Planning System for Automated Vehicles in Highly Interactive Environments. IEEE Transactions on Robotics, 2022, 38, 1118-1138.	10.3	23
47	Quadrotor trajectory generation in dynamic environments using semi-definite relaxation on nonconvex QCQP. , 2017, , .		22
48	Dual-fisheye omnidirectional stereo. , 2017, , .		22
49	Flying through a narrow gap using neural network: an end-to-end planning and control approach. , 2019, , .		22
50	Efficient Uncertainty-aware Decision-making for Automated Driving Using Guided Branching. , 2020, , .		21
51	Autonomous aerial robot using dual-fisheye cameras. Journal of Field Robotics, 2020, 37, 497-514.	6.0	21
52	Event-Based Motion Segmentation With Spatio-Temporal Graph Cuts. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 4868-4880.	11.3	21
53	Gesture-based piloting of an aerial robot using monocular vision. , 2017, , .		19
54	Design, implementation and verification of a quadrotor tail-sitter VTOL UAV. , 2017, , .		19

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55	Collaborative air-ground target searching in complex environments. , 2017, , .		18
56	Optimal Trajectory Generation for Quadrotor Teach-and-Repeat. IEEE Robotics and Automation Letters, 2019, 4, 1493-1500.	5.1	18
57	High-precision online markerless stereo extrinsic calibration. , 2016, , .		17
58	A hierarchical control approach for a quadrotor tail-sitter VTOL UAV and experimental verification. , 2017, , .		16
59	Simulation and flight experiments of a quadrotor tail-sitter vertical take-off and landing unmanned aerial vehicle with wide flight envelope. International Journal of Micro Air Vehicles, 2018, 10, 303-317.	1.3	16
60	Building maps for autonomous navigation using sparse visual SLAM features. , 2017, , .		15
61	Edge alignment-based visual-inertial fusion for tracking of aggressive motions. Autonomous Robots, 2018, 42, 513-528.	4.8	14
62	Quadtree-Accelerated Real-Time Monocular Dense Mapping. , 2018, , .		14
63	Trajectory Replanning for Quadrotors Using Kinodynamic Search and Elastic Optimization. , 2018, , .		14
64	Joint Spatial-Temporal Optimization for Stereo 3D Object Tracking. , 2020, , .		13
65	Learning Unmanned Aerial Vehicle Control for Autonomous Target Following. , 2018, , .		13
66	Flow-Motion and Depth Network for Monocular Stereo and Beyond. IEEE Robotics and Automation Letters, 2020, 5, 3307-3314.	5.1	12
67	Monocular visual-inertial fusion with online initialization and camera-IMU calibration. , 2015, , .		11
68	Aggressive quadrotor flight using dense visual-inertial fusion. , 2016, , .		11
69	Improving octree-based occupancy maps using environment sparsity with application to aerial robot navigation. , 2017, , .		11
70	Real-time dense mapping for online processing and navigation. Journal of Field Robotics, 2019, 36, 1004-1036.	6.0	10
71	A Collaborative Aerial-Ground Robotic System for Fast Exploration. Springer Proceedings in Advanced Robotics, 2020, , 59-71.	1.3	10
72	An Augmented Reality Interaction Interface for Autonomous Drone. , 2020, , .		10

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73	High altitude monocular visual-inertial state estimation: Initialization and sensor fusion. , 2017, , .		9
74	Graph-Guided Deformation for Point Cloud Completion. IEEE Robotics and Automation Letters, 2021, 6, 7081-7088.	5.1	9
75	Temporal Point Cloud Completion With Pose Disturbance. IEEE Robotics and Automation Letters, 2022, 7, 4165-4172.	5.1	9
76	A Coordinate Descent Method for Multidisciplinary Design Optimization of Electric-Powered Winged UAVs. , 2018, , .		8
77	Dense visual-inertial odometry for tracking of aggressive motions. , 2015, , .		7
78	Using a quadrotor to track a moving target with arbitrary relative motion patterns. , 2017, , .		7
79	Self-calibrating multi-camera visual-inertial fusion for autonomous MAVs. , 2016, , .		5
80	CSI-based WiFi-inertial state estimation. , 2016, , .		5
81	Spline-Based Initialization of Monocular Visual-Inertial State Estimators at High Altitude. IEEE Robotics and Automation Letters, 2017, 2, 2224-2231.	5.1	5
82	Estimating Metric Poses of Dynamic Objects Using Monocular Visual-Inertial Fusion. , 2018, , .		5
83	Learning whole-image descriptors for real-time loop detection and kidnap recovery under large viewpoint difference. Robotics and Autonomous Systems, 2021, 143, 103813.	5.1	5
84	Model-aided monocular visual-inertial state estimation and dense mapping. , 2017, , .		4
85	Adaptive Baseline Monocular Dense Mapping with Inter-Frame Depth Propagation. , 2018, , .		4
86	Frequency domain model identification and loop-shaping controller design for quadrotor tail-sitter VTOL UAVs. , 2018, , .		4
87	Geometric Calibration for Cameras with Inconsistent Imaging Capabilities. Sensors, 2022, 22, 2739.	3.8	4
88	Exploration with Global Consistency Using Real-Time Re-integration and Active Loop Closure. , 2022, , .		4
89	Depth Estimation Under Motion With Single Pair Rolling Shutter Stereo Images. IEEE Robotics and Automation Letters, 2021, 6, 3160-3167.	5.1	3
90	Semi-Supervised Learning: Structure, Reflectance and Lighting Estimation From a Night Image Pair. IEEE Robotics and Automation Letters, 2022, 7, 976-983.	5.1	3

#	ARTICLE	IF	CITATIONS
91	Estimation and Adaption of Indoor Ego Airflow Disturbance with Application to Quadrotor Trajectory Planning. , 2021, , .		2
92	Temporal Scheduling and Optimization for Multi-MAV Planning. Springer Proceedings in Advanced Robotics, 2022, , 813-831.	1.3	2
93	Neither Fast nor Slow: How to Fly Through Narrow Tunnels. IEEE Robotics and Automation Letters, 2022, 7, 5489-5496.	5.1	2
94	Guest Editorial Special Section on Aerial Swarm Robotics. IEEE Transactions on Robotics, 2018, 34, 835-836.	10.3	1
95	FlowNorm: A Learning-based Method for Increasing Convergence Range of Direct Alignment. , 2020, , .		1
96	A Screen-Based Method for Automated Camera Intrinsic Calibration on Production Lines. , 2019, , .		0