Roland Siegwart

List of Publications by Year in Descending Order

566 papers	22,029 citations	73 h-index	128 g-index
629 ext. papers	28,903 ext. citations	3.5 avg, IF	7.34 L-index

#	Paper	IF	Citations
566	Human-State-Aware Controller for a Tethered Aerial Robot Guiding a Human by Physical Interaction. *IEEE Robotics and Automation Letters*, **2022**, 7, 2827-2834	4.2	2
565	CERBERUS: Autonomous Legged and Aerial Robotic Exploration in the Tunnel and Urban Circuits of the DARPA Subterranean Challenge **2022**, 2, 274-324		3
564	Power-based Safety Layer for Aerial Vehicles in Physical Interaction using Lyapunov Exponents. *IEEE Robotics and Automation Letters*, **2022**, 1-1	4.2	
563	Linewise Non-Rigid Point Cloud Registration. *IEEE Robotics and Automation Letters*, **2022**, 1-1	4.2	
562	Model Predictive Control for Micro Aerial Vehicles: A Survey **2021**,		5
561	SemSegMap 3D Segment-based Semantic Localization **2021**,		2
560	Spherical Multi-Modal Place Recognition for Heterogeneous Sensor Systems **2021**,		2
559	Online Informative Path Planning for Active Information Gathering of a 3D Surface **2021**,		2
558	Dynamic Object Aware LiDAR SLAM based on Automatic Generation of Training Data **2021**,		3
557	Nonlinear Model Predictive Velocity Control of a VTOL Tiltwing UAV. *IEEE Robotics and Automation Letters*, **2021**, 6, 5776-5783	4.2	8
556	Distributed PDOP Coverage Control: Providing Large-Scale Positioning Service Using a Multi-Robot System. *IEEE Robotics and Automation Letters*, **2021**, 6, 2217-2224	4.2	2
555	PHASER: A Robust and Correspondence-Free Global Pointcloud Registration. *IEEE Robotics and Automation Letters*, **2021**, 6, 855-862	4.2	5
554	Hough^{2}Map Iterative Event-Based Hough Transform for High-Speed Railway Mapping. *IEEE Robotics and Automation Letters*, **2021**, 6, 2745-2752	4.2	2
553	Active Interaction Force Control for Contact-Based Inspection With a Fully Actuated Aerial Vehicle. *IEEE Transactions on Robotics*, **2021**, 37, 709-722	6.5	19
552	Mesh Manifold Based Riemannian Motion Planning for Omnidirectional Micro Aerial Vehicles. *IEEE Robotics and Automation Letters*, **2021**, 6, 4790-4797	4.2	0
551	A Unified Approach for Autonomous Volumetric Exploration of Large Scale Environments Under Severe Odometry Drift. *IEEE Robotics and Automation Letters*, **2021**, 6, 4504-4511	4.2	3
550	Dynamic End Effector Tracking With an Omnidirectional Parallel Aerial Manipulator. *IEEE Robotics and Automation Letters*, **2021**, 6, 8165-8172	4.2	4

549	Trajectory Optimization for Wheeled-Legged Quadrupedal Robots Driving in Challenging Terrain. *IEEE Robotics and Automation Letters*, **2020**, 5, 4172-4179	4.2	11
548	An Efficient Sampling-Based Method for Online Informative Path Planning in Unknown Environments. *IEEE Robotics and Automation Letters*, **2020**, 5, 1500-1507	4.2	49
547	VersaVIS-An Open Versatile Multi-Camera Visual-Inertial Sensor Suite. *Sensors*, **2020**, 20,	3.8	8
546	LQR-Assisted Whole-Body Control of a Wheeled Bipedal Robot With Kinematic Loops. *IEEE Robotics and Automation Letters*, **2020**, 5, 3745-3752	4.2	15
545	Large-scale, real-time visual-inertial localization revisited. *International Journal of Robotics Research* , **2020**, 39, 1061-1084	5.7	13
544	Learning Densities in Feature Space for Reliable Segmentation of Indoor Scenes. *IEEE Robotics and Automation Letters*, **2020**, 5, 1032-1038	4.2	3
543	An informative path planning framework for UAV-based terrain monitoring. *Autonomous Robots*, **2020**, 44, 889-911	3	25
542	An open-source system for vision-based micro-aerial vehicle mapping, planning, and flight in cluttered environments. *Journal of Field Robotics*, **2020**, 37, 642-666	6.7	13
541	IDOL: A Framework for IMU-DVS Odometry using Lines **2020**,		2
540	Robot Navigation in Crowded Environments Using Deep Reinforcement Learning **2020**,		11
539	IAN: Multi-Behavior Navigation Planning for Robots in Real, Crowded Environments **2020**,		3
538	Depth Based Semantic Scene Completion With Position Importance Aware Loss. *IEEE Robotics and Automation Letters*, **2020**, 5, 219-226	4.2	9
537	Voxgraph: Globally Consistent, Volumetric Mapping Using Signed Distance Function Submaps. *IEEE Robotics and Automation Letters*, **2020**, 5, 227-234	4.2	16
536	. *IEEE Transactions on Aerospace and Electronic Systems*, **2020**, 56, 2792-2805	3.7	15
535	Trajectory Tracking Nonlinear Model Predictive Control for an Overactuated MAV **2020**,		1
534	Design and optimal control of a tiltrotor micro-aerial vehicle for efficient omnidirectional flight. *International Journal of Robotics Research*, **2020**, 39, 1305-1325	5.7	9
533	Learning Dynamics for Improving Control of Overactuated Flying Systems. *IEEE Robotics and Automation Letters*, **2020**, 5, 5283-5290	4.2	1
532	AMZ Driverless: The full autonomous racing system. *Journal of Field Robotics*, **2020**, 37, 1267	6.7	28

531	. *IEEE Robotics and Automation Magazine*, **2020**, 0-0	3.4	11
530	Hybrid Topological and 3D Dense Mapping through Autonomous Exploration for Large Indoor Environments **2020**,		3
529	End-to-End Velocity Estimation for Autonomous Racing. *IEEE Robotics and Automation Letters*, **2020** , 5, 6869-6875	4.2	6
528	Long-duration fully autonomous operation of rotorcraft unmanned aerial systems for remote-sensing data acquisition. *Journal of Field Robotics*, **2020**, 37, 137-157	6.7	10
527	SegMap: Segment-based mapping and localization using data-driven descriptors. *International Journal of Robotics Research*, **2020**, 39, 339-355	5.7	41
526	Ascento: A Two-Wheeled Jumping Robot **2019**,		25
525	Redundant Perception and State Estimation for Reliable Autonomous Racing **2019**,		6
524	VIZARD: Reliable Visual Localization for Autonomous Vehicles in Urban Outdoor Environments **2019**,		6
523	AgriColMap: Aerial-Ground Collaborative 3D Mapping for Precision Farming. *IEEE Robotics and Automation Letters*, **2019**, 4, 1085-1092	4.2	31
522	Comparing Task Simplifications to Learn Closed-Loop Object Picking Using Deep Reinforcement Learning. *IEEE Robotics and Automation Letters*, **2019**, 4, 1549-1556	4.2	14
521	. *IEEE Sensors Journal*, **2019**, 19, 3846-3860	4	22
520	Robust collaborative object transportation using multiple MAVs. *International Journal of Robotics Research*, **2019**, 38, 1020-1044	5.7	24
519	Appearance-based landmark selection for visual localization. *Journal of Field Robotics*, **2019**, 36, 1041-1073	6.7	4
518	Attitude and Cruise Control of a VTOL Tiltwing UAV. *IEEE Robotics and Automation Letters*, **2019**, 4, 2683-2690	4.2	13
517	A spatio temporal spectral framework for plant stress phenotyping. *Plant Methods*, **2019**, 15, 13	5.8	15
516	Experimental Comparison of Visual-Aided Odometry Methods for Rail Vehicles. *IEEE Robotics and Automation Letters*, **2019**, 4, 1815-1822	4.2	8
515	Inferring Pedestrian Motions at Urban Crosswalks. *IEEE Transactions on Intelligent Transportation Systems*, **2019**, 20, 544-555	6.1	18
514	Autonomous Exploration and Inspection Path Planning for Aerial Robots Using the Robot Operating System. *Studies in Computational Intelligence*, **2019**, 67-111	0.8	28

513	The current state and future outlook of rescue robotics. *Journal of Field Robotics*, **2019**, 36, 1171-1191	6.7	73
512	An Approach for Semantic Segmentation of Tree-like Vegetation **2019**,		4
511	Volumetric Instance-Aware Semantic Mapping and 3D Object Discovery. *IEEE Robotics and Automation Letters*, **2019**, 4, 3037-3044	4.2	49
510	A Virtual Reality Interface for an Autonomous Spray Painting UAV. *IEEE Robotics and Automation Letters*, **2019**, 4, 2870-2877	4.2	12
509	Multiple Hypothesis Semantic Mapping for Robust Data Association. *IEEE Robotics and Automation Letters*, **2019**, 1-1	4.2	6
508	Predicting Unobserved Space for Planning via Depth Map Augmentation **2019**,		1
507	Disturbance Estimation and Rejection for High-Precision Multirotor Position Control **2019**,		8
506	Meteorology-Aware Multi-Goal Path Planning for Large-Scale Inspection Missions with Solar-Powered Aircraft. *Journal of Aerospace Information Systems*, **2019**, 16, 390-408	1	2
505	Flexible Trinocular: Non-rigid Multi-Camera-IMU Dense Reconstruction for UAV Navigation and Mapping **2019**,		1
504	OREOS: Oriented Recognition of 3D Point Clouds in Outdoor Scenarios **2019**,		15
503	3D multi-robot patrolling with a two-level coordination strategy. *Autonomous Robots*, **2019**, 43, 1747-1739	3	7
502	Navigation aware planning for tandem UAV missions in GNSS challenging environments **2019**,		2
501	The ETH-MAV Team in the MBZ International Robotics Challenge. *Journal of Field Robotics*, **2019**, 36, 78-103	6.7	12
500	Maplab: An Open Framework for Research in Visual-Inertial Mapping and Localization. *IEEE Robotics and Automation Letters*, **2018**, 3, 1418-1425	4.2	101
499	Incremental-Segment-Based Localization in 3-D Point Clouds. *IEEE Robotics and Automation Letters*, **2018**, 3, 1832-1839	4.2	27
498	Safe Local Exploration for Replanning in Cluttered Unknown Environments for Microaerial Vehicles. *IEEE Robotics and Automation Letters*, **2018**, 3, 1474-1481	4.2	34
497	The Two-State Implicit Filter Recursive Estimation for Mobile Robots. *IEEE Robotics and Automation Letters*, **2018**, 3, 573-580	4.2	17
496	Build Your Own Visual-Inertial Drone: A Cost-Effective and Open-Source Autonomous Drone. *IEEE Robotics and Automation Magazine*, **2018**, 25, 89-103	3.4	16

495	weedNet: Dense Semantic Weed Classification Using Multispectral Images and MAV for Smart Farming. *IEEE Robotics and Automation Letters*, **2018**, 3, 588-595	4.2	133
494	Free LSD: Prior-Free Visual Landing Site Detection for Autonomous Planes. *IEEE Robotics and Automation Letters*, **2018**, 3, 2545-2552	4.2	14
493	Cooperative Collision Avoidance for Nonholonomic Robots. *IEEE Transactions on Robotics*, **2018**, 34, 404-420	3.5	61
492	Receding horizon path planning for 3D exploration and surface inspection. *Autonomous Robots*, **2018**, 42, 291-306	3	81
491	A framework for maximum likelihood parameter identification applied on MAVs. *Journal of Field Robotics*, **2018**, 35, 5-22	6.7	10
490	Automatic Segmentation of Tree Structure From Point Cloud Data. *IEEE Robotics and Automation Letters*, **2018**, 3, 3043-3050	4.2	10
489	Local Positioning System Using UWB Range Measurements for an Unmanned Blimp. *IEEE Robotics and Automation Letters*, **2018**, 3, 2971-2978	4.2	9
488	X-View: Graph-Based Semantic Multi-View Localization. *IEEE Robotics and Automation Letters*, **2018**, 3, 1687-1694	4.2	47
487	PaintCopter: An Autonomous UAV for Spray Painting on Three-Dimensional Surfaces. *IEEE Robotics and Automation Letters*, **2018**, 3, 2862-2869	4.2	24
486	Mapping on the Fly: Real-Time 3D Dense Reconstruction, Digital Surface Map and Incremental Orthomosaic Generation for Unmanned Aerial Vehicles. *Springer Proceedings in Advanced Robotics*, **2018**, 383-396	0.6	11
485	Evaluation of Combined Time-Offset Estimation and Hand-Eye Calibration on Robotic Datasets. *Springer Proceedings in Advanced Robotics*, **2018**, 145-159	0.6	13
484	Dynamic System Identification, and Control for a Cost-Effective and Open-Source Multi-rotor MAV. *Springer Proceedings in Advanced Robotics*, **2018**, 605-620	0.6	7
483	Improved Tau-Guidance and Vision-Aided Navigation for Robust Autonomous Landing of UAVs. *Springer Proceedings in Advanced Robotics*, **2018**, 115-128	0.6	3
482	Visual-Inertial Teach and Repeat Powered by Google Tango **2018**,		2
481	Modular Sensor Fusion for Semantic Segmentation **2018**,		6
480	LandmarkBoost: Efficient visualContext Classifiers for Robust Localization **2018**,		3
479	C-blox: A Scalable and Consistent TSDF-based Dense Mapping Approach **2018**,		17
478	Sparse 3D Topological Graphs for Micro-Aerial Vehicle Planning **2018**,		14

477	History-Aware Autonomous Exploration in Confined Environments Using MAVs **2018**,		22
476	Reinforced Imitation: Sample Efficient Deep Reinforcement Learning for Mapless Navigation by Leveraging Prior Demonstrations. *IEEE Robotics and Automation Letters*, **2018**, 3, 4423-4430	4.2	51
475	Design of an Autonomous Racecar: Perception, State Estimation and System Integration **2018**,		13
474	The Voliro Omniorientational Hexacopter: An Agile and Maneuverable Tiltable-Rotor Aerial Vehicle. *IEEE Robotics and Automation Magazine*, **2018**, 25, 34-44	3.4	80
473	WeedMap: A Large-Scale Semantic Weed Mapping Framework Using Aerial Multispectral Imaging and Deep Neural Network for Precision Farming. *Remote Sensing*, **2018**, 10, 1423	5	89
472	Robotic technologies for solar-powered UAVs: Fully autonomous updraft-aware aerial sensing for multiday search-and-rescue missions. *Journal of Field Robotics*, **2018**, 35, 612-640	6.7	15
471	Nonlinear MPC for Fixed-wing UAV Trajectory Tracking: Implementation and Flight Experiments **2017**,		18
470	Camera/IMU Calibration Revisited. *IEEE Sensors Journal*, **2017**, 17, 3257-3268	4	30
469	Design of small hand-launched solar-powered UAVs: From concept study to a multi-day world endurance record flight. *Journal of Field Robotics*, **2017**, 34, 1352-1377	6.7	33
468	Adaptive continuous-space informative path planning for online environmental monitoring. *Journal of Field Robotics*, **2017**, 34, 1427-1449	6.7	38
467	Collaborative 3D Reconstruction Using Heterogeneous UAVs: System and Experiments. *Springer Proceedings in Advanced Robotics*, **2017**, 43-56	0.6	8
466	An incremental sampling-based approach to inspection planning: the rapidly exploring random tree of trees. *Robotica*, **2017**, 35, 1327-1340	2.1	16
465	Driving on Point Clouds: Motion Planning, Trajectory Optimization, and Terrain Assessment in Generic Nonplanar Environments. *Journal of Field Robotics*, **2017**, 34, 940-984	6.7	42
464	Model-based transition optimization for a VTOL tailsitter **2017**,		10
463	Efficient descriptor learning for large scale localization **2017**,		12
462	Sampling-based motion planning for active multirotor system identification **2017**,		7
461	Iterated extended Kalman filter based visual-inertial odometry using direct photometric feedback. *International Journal of Robotics Research*, **2017**, 36, 1053-1072	5.7	160
460	SegMatch: Segment based place recognition in 3D point clouds **2017**,		110

459	UAV-based crop and weed classification for smart farming **2017**,		133
458	TSDF-based change detection for consistent long-term dense reconstruction and dynamic object discovery **2017**,		25
457	Map quality evaluation for visual localization **2017**,		4
456	From perception to decision: A data-driven approach to end-to-end motion planning for autonomous ground robots **2017**,		124
455	Visual-inertial self-calibration on informative motion segments **2017**,		14
454	Online informative path planning for active classification using UAVs **2017**,		20
453	Collaborative transportation using MAVs via passive force control **2017**,		48
452	A direct formulation for camera calibration **2017**,		4
451	Visual place recognition with probabilistic voting **2017**,		23
450	On field radiometric calibration for multispectral cameras **2017**,		6
449	Gone with the wind: Nonlinear guidance for small fixed-wing aircraft in arbitrarily strong windfields **2017**,		6
448	Control of a Quadrotor With Reinforcement Learning. *IEEE Robotics and Automation Letters*, **2017**, 2, 2096-2103	4.2	175
447	Trajectory-Based Place-Recognition for Efficient Large Scale Localization. *International Journal of Computer Vision*, **2017**, 124, 49-64	10.6	12
446	Unsupervised 3D Object Discovery and Categorization for Mobile Robots. *Springer Tracts in Advanced Robotics*, **2017**, 61-76	0.5	
445	Integrated Data Management for a Fleet of Search-and-rescue Robots. *Journal of Field Robotics*, **2017**, 34, 539-582	6.7	37
444	Aerial picking and delivery of magnetic objects with MAVs **2017**,		30
443	Linear vs Nonlinear MPC for Trajectory Tracking Applied to Rotary Wing Micro Aerial Vehicles. *IFAC-PapersOnLine*, **2017**, 50, 3463-3469	0.7	61
442	Robust collision avoidance for multiple micro aerial vehicles using nonlinear model predictive control **2017**,		33

441	Voxblox: Incremental 3D Euclidean Signed Distance Fields for on-board MAV planning **2017**,		131
440	A low-cost system for high-rate, high-accuracy temporal calibration for LIDARs and cameras **2017**,		6
439	Onboard real-time dense reconstruction of large-scale environments for UAV **2017**,		7
438	Autonomous robotic stone stacking with online next best object target pose planning **2017**,		20
437	Model Predictive Control for Trajectory Tracking of Unmanned Aerial Vehicles Using Robot Operating System. *Studies in Computational Intelligence*, **2017**, 3-39	0.8	63
436	Online self-calibration for robotic systems. *International Journal of Robotics Research*, **2016**, 35, 357-380	5.7	17
435	Aerial robotic contact-based inspection: planning and control. *Autonomous Robots*, **2016**, 40, 631-655	3	56
434	Robust Model Predictive Flight Control of Unmanned Rotorcrafts. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2016**, 81, 443-469	2.9	57
433	Automated valet parking and charging for e-mobility **2016**,		22
432	Full-body multi-objective controller for aerial manipulation **2016**,		3
431	Predicting pedestrian crossing using Quantile Regression forests **2016**,		11
430	Receding Horizon "Next-Best-View" Planner for 3D Exploration **2016**,		165
429	**2016**,		18
428	Fast nonlinear Model Predictive Control for unified trajectory optimization and tracking **2016**,		86
427	Reshaping our model of the world over time **2016**,		3
426	Point cloud descriptors for place recognition using sparse visual information **2016**,		30
425	. *IEEE Sensors Journal*, **2016**, 16, 5433-5443	4	16
424	The EuRoC micro aerial vehicle datasets. *International Journal of Robotics Research*, **2016**, 35, 1157-1163	5.7	563

423	Three-dimensional coverage path planning via viewpoint resampling and tour optimization for aerial robots. *Autonomous Robots*, **2016**, 40, 1059-1078	3	63
422	Practice Makes Perfect: An Optimization-Based Approach to Controlling Agile Motions for a Quadruped Robot. *IEEE Robotics and Automation Magazine*, **2016**, 23, 34-43	3.4	57
421	Continuous-Time Estimation of Attitude Using B-Splines on Lie Groups. *Journal of Guidance, Control, and Dynamics*, **2016**, 39, 242-261	2.1	10
420	Maximum Likelihood Identification of Inertial Sensor Noise Model Parameters. *IEEE Sensors Journal*, **2016**, 16, 163-176	4	24
419	State Estimation for Shore Monitoring Using an Autonomous Surface Vessel. *Springer Tracts in Advanced Robotics*, **2016**, 745-760	0.5	6
418	RotorS—A Modular Gazebo MAV Simulator Framework. *Studies in Computational Intelligence*, **2016**, 595-625	5.8	185
417	Extending kalibr: Calibrating the extrinsics of multiple IMUs and of individual axes **2016**,		93
416	Non-uniform sampling strategies for continuous correction based trajectory estimation **2016**,		5
415	Maximum likelihood parameter identification for MAVs **2016**,		9
414	Robust Visual Place Recognition with Graph Kernels **2016**,		24
413	Will It Last? Learning Stable Features for Long-Term Visual Localization **2016**,		7
412	Structure-based vision-laser matching **2016**,		26
411	Navigation planning for legged robots in challenging terrain **2016**,		59
410	Real-time dense surface reconstruction for aerial manipulation **2016**,		8
409	Predicting actions to act predictably: Cooperative partial motion planning with maximum entropy models **2016**,		43
408	Collaborative navigation for flying and walking robots **2016**,		12
407	Generalized information filtering for MAV parameter estimation **2016**,		2
406	Robust map generation for fixed-wing UAVs with low-cost highly-oblique monocular cameras **2016**,		6

405	Appearance-based landmark selection for efficient long-term visual localization **2016**,		19
404	**2016**,		12
403	Tree cavity inspection using aerial robots **2016**,		20
402	Design and modeling of dexterous aerial manipulator **2016**,		25
401	Continuous-time trajectory optimization for online UAV replanning **2016**,		98
400	A data-driven approach for pedestrian intention estimation **2016**,		39
399	Monocular Visual-Inertial SLAM for Fixed-Wing UAVs Using Sliding Window Based Nonlinear Optimization. *Lecture Notes in Computer Science*, **2016**, 569-581	0.9	2
398	Real-Time Detection and Tracking of Multiple Humans from High Bird□s-Eye Views in the Visual and Infrared Spectrum. *Lecture Notes in Computer Science*, **2016**, 545-556	0.9	1
397	A framework for multi-robot pose graph SLAM **2016**,		24
396	Target-based calibration of underwater camera housing parameters **2016**,		3
395	Collaborative localization of aerial and ground robots through elevation maps **2016**,		10
394	Long-Endurance Sensing and Mapping Using a Hand-Launchable Solar-Powered UAV. *Springer Tracts in Advanced Robotics*, **2016**, 441-454	0.5	20
393	A General Approach to Spatiotemporal Calibration in Multisensor Systems. *IEEE Transactions on Robotics*, **2016**, 32, 383-398	6.5	37
392	RGBD terrain perception and dense mapping for legged robots. *International Journal of Applied Mathematics and Computer Science*, **2016**, 26, 81-97	1.7	21
391	Flying Robots **2016**, 623-670		9
390	Perpetual flight with a small solar-powered UAV: Flight results, performance analysis and model validation **2016**,		24
389	Data Materialities Art Gallery: Introduction and Gallery. *Leonardo*, **2016**, 49, 352-374	0.1	
388	Incremental topological segmentation for semi-structured environments using discretized GVG. *Autonomous Robots*, **2015**, 38, 143-160	3	20

387	Relaxing the planar assumption: 3D state estimation for an autonomous surface vessel. *International Journal of Robotics Research*, **2015**, 34, 1604-1621	5.7	3
386	Local motion planning for collaborative multi-robot manipulation of deformable objects **2015**,		45
385	Fast collision detection through bounding volume hierarchies in workspace-time space for sampling-based motion planners **2015**,		5
384	Dense visual-inertial navigation system for mobile robots **2015**,		20
383	Robust state estimation for Micro Aerial Vehicles based on system dynamics **2015**,		10
382	Extending the Performance of Human Classifiers Using a Viewpoint Specific Approach **2015**,		1
381	Kinect v2 for mobile robot navigation: Evaluation and modeling **2015**,		121
380	Beyond point clouds - 3D mapping and field parameter measurements using UAVs **2015**,		19
379	Uniform coverage structural inspection path planning for micro aerial vehicles **2015**,		16
378	A solar-powered hand-launchable UAV for low-altitude multi-day continuous flight **2015**,		36
377	Vision-only fully automated driving in dynamic mixed-traffic scenarios. *IT - Information Technology*, **2015**, 57, 231-242	0.4	4
376	Towards optimal force distribution for walking excavators **2015**,		7
375	Keyframe-based visual-inertial odometry using nonlinear optimization. *International Journal of Robotics Research*, **2015**, 34, 314-334	5.7	772
374	A Review of Point Cloud Registration Algorithms for Mobile Robotics. *Foundations and Trends in Robotics*, **2015**, 4, 1-104	11	232
373	Dynamic trotting on slopes for quadrupedal robots **2015**,		31
372	Policy Learning with an Efficient Black-Box Optimization Algorithm. *International Journal of Humanoid Robotics*, **2015**, 12, 1550029	1.2	2
371	Lighting-invariant Adaptive Route Following Using Iterative Closest Point Matching. *Journal of Field Robotics*, **2015**, 32, 534-564	6.7	24
370	Omnidirectional visual obstacle detection using embedded FPGA **2015**,		20

369	Feature Relevance Estimation for Learning Pedestrian Behavior at Crosswalks **2015**,		19
368	Real-time visual-inertial localization for aerial and ground robots **2015**,		12
367	The gist of maps - summarizing experience for lifelong localization **2015**,		34
366	Fast nonlinear model predictive control for multicopter attitude tracking on SO(3) **2015**,		45
365	Robust visual inertial odometry using a direct EKF-based approach **2015**,		301
364	Real-time visual-inertial mapping, re-localization and planning onboard MAVs in unknown environments **2015**,		63
363	Meteorological path planning using dynamic programming for a solar-powered UAV **2015**,		15
362	Direct state-to-action mapping for high DOF robots using ELM **2015**,		4
361	Victim Detection from a Fixed-Wing UAV: Experimental Results. *Lecture Notes in Computer Science*, **2015**, 432-443	0.9	3
360	Map API - scalable decentralized map building for robots **2015**,		23
359	Keep it brief: Scalable creation of compressed localization maps **2015**,		27
358	Structural inspection path planning via iterative viewpoint resampling with application to aerial robotics **2015**,		96
357	Detection and characterization of moving objects with aerial vehicles using inertial-optical flow **2015**,		6
356	Collision avoidance for aerial vehicles in multi-agent scenarios. *Autonomous Robots*, **2015**, 39, 101-121	3	96
355	Detection of slippery terrain with a heterogeneous team of legged robots **2014**,		5
354	A synchronized visual-inertial sensor system with FPGA pre-processing for accurate real-time SLAM **2014**,		142
353	Topological Mapping and Scene Recognition With Lightweight Color Descriptors for an Omnidirectional Camera. *IEEE Transactions on Robotics*, **2014**, 30, 310-324	6.5	42
352	Robust explicit model predictive flight control of unmanned rotorcrafts: Design and experimental evaluation **2014**,		6

351	Hybrid predictive control of a coaxial aerial robot for physical interaction through contact. *Control Engineering Practice*, **2014**, 32, 96-112	3.9	14
350	People detection and tracking from aerial thermal views **2014**,		67
349	Vision-Controlled Micro Flying Robots: From System Design to Autonomous Navigation and Mapping in GPS-Denied Environments. *IEEE Robotics and Automation Magazine*, **2014**, 21, 26-40	3.4	169
348	Motion- and Uncertainty-aware Path Planning for Micro Aerial Vehicles. *Journal of Field Robotics*, **2014**, 31, 676-698	6.7	38
347	Strategies for sensor-fault compensation on UAVs: Review, discussions & additions **2014**,		7
346	An Evaluation of Moreau's Time-Stepping Scheme for the Simulation of a Legged Robot **2014**,		2
345	Human - robot swarm interaction for entertainment **2014**,		6
344	Robust state estimation for small unmanned airplanes **2014**,		19
343	Fusion of optical flow and inertial measurements for robust egomotion estimation **2014**,		11
342	Excitation and stabilization of passive dynamics in locomotion using hierarchical operational space control **2014**,		2
341	Hybrid predictive control for aerial robotic physical interaction towards inspection operations **2014**,		47
340	Towards automatic discovery of agile gaits for quadrupedal robots **2014**,		16
339	ROCK* Efficient black-box optimization for policy learning **2014**,		3
338	Explicit model predictive control and L1-navigation strategies for fixed-wing UAV path tracking **2014**,		8
337	**2014**,		56
336	Teaching a core CS concept through robotics **2014**,		20
335	Spatio-temporal laser to visual/inertial calibration with applications to hand-held, large scale scanning **2014**,		8
334	Visual industrial inspection using aerial robots **2014**,		27

333	Placeless Place-Recognition **2014**,		49
332	Toward Combining Speed, Efficiency, Versatility, and Robustness in an Autonomous Quadruped. *IEEE Transactions on Robotics*, **2014**, 30, 1427-1440	6.5	79
331	Navigation on point-cloud □A Riemannian metric approach **2014**,		11
330	Infrastructure-based calibration of a multi-camera rig **2014**,		26
329	Shared control of autonomous vehicles based on velocity space optimization **2014**,		17
328	Two different tools for three-dimensional mapping: DE-based scan matching and feature-based loop detection. *Robotica*, **2014**, 32, 19-41	2.1	18
327	Quadrupedal locomotion using hierarchical operational space control. *International Journal of Robotics Research*, **2014**, 33, 1047-1062	5.7	75
326	Delay and Dropout Tolerant State Estimation for MAVs. *Springer Tracts in Advanced Robotics*, **2014**, 571-584	0.5	2
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