

# Roland Siegwart

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/3717474/roland-siegwart-publications-by-citations.pdf>

**Version:** 2024-04-29

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	BRISK: Binary Robust invariant scalable keypoints <b>2011</b> ,		1417
565	Keyframe-based visual-inertial odometry using nonlinear optimization. <i>International Journal of Robotics Research</i> , <b>2015</b> , 34, 314-334	5.7	772
564	The EuRoC micro aerial vehicle datasets. <i>International Journal of Robotics Research</i> , <b>2016</b> , 35, 1157-1163	5.7	563
563	Backstepping and Sliding-mode Techniques Applied to an Indoor Micro Quadrotor		411
562	Comparing ICP variants on real-world data sets. <i>Autonomous Robots</i> , <b>2013</b> , 34, 133-148	3	391
561	Design and control of an indoor micro quadrotor <b>2004</b> ,		373
560	Social integration of robots into groups of cockroaches to control self-organized choices. <i>Science</i> , <b>2007</b> , 318, 1155-8	33.3	365
559	Full control of a quadrotor <b>2007</b> ,		357
558	Robust visual inertial odometry using a direct EKF-based approach <b>2015</b> ,		301
557	A Toolbox for Easily Calibrating Omnidirectional Cameras <b>2006</b> ,		279
556	Monocular-SLAMBased navigation for autonomous micro helicopters in GPS-denied environments. <i>Journal of Field Robotics</i> , <b>2011</b> , 28, 854-874	6.7	272
555	Unified temporal and spatial calibration for multi-sensor systems <b>2013</b> ,		264
554	A Review of Point Cloud Registration Algorithms for Mobile Robotics. <i>Foundations and Trends in Robotics</i> , <b>2015</b> , 4, 1-104	11	232
553	A novel parametrization of the perspective-three-point problem for a direct computation of absolute camera position and orientation <b>2011</b> ,		227
552	A robust and modular multi-sensor fusion approach applied to MAV navigation <b>2013</b> ,		222
551	Real-time onboard visual-inertial state estimation and self-calibration of MAVs in unknown environments <b>2012</b> ,		197
550	Vision based MAV navigation in unknown and unstructured environments <b>2010</b> ,		194

549	RotorSA Modular Gazebo MAV Simulator Framework. <i>Studies in Computational Intelligence</i> , <b>2016</b> , 595-625.8		185
548	Appearance-Guided Monocular Omnidirectional Visual Odometry for Outdoor Ground Vehicles. <i>IEEE Transactions on Robotics</i> , <b>2008</b> , 24, 1015-1026	6.5	182
547	Control of a Quadrotor With Reinforcement Learning. <i>IEEE Robotics and Automation Letters</i> , <b>2017</b> , 2, 2096-2103	4.2	175
546	Vision-Controlled Micro Flying Robots: From System Design to Autonomous Navigation and Mapping in GPS-Denied Environments. <i>IEEE Robotics and Automation Magazine</i> , <b>2014</b> , 21, 26-40	3.4	169
545	Fusion of IMU and Vision for Absolute Scale Estimation in Monocular SLAM. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2011</b> , 61, 287-299	2.9	168
544	Receding Horizon "Next-Best-View" Planner for 3D Exploration <b>2016</b> ,		165
543	Robox at Expo.02: A large-scale installation of personal robots. <i>Robotics and Autonomous Systems</i> , <b>2003</b> , 42, 203-222	3.5	165
542	Monocular Vision for Long-term Micro Aerial Vehicle State Estimation: A Compendium. <i>Journal of Field Robotics</i> , <b>2013</b> , 30, 803-831	6.7	163
541	Innovative design for wheeled locomotion in rough terrain. <i>Robotics and Autonomous Systems</i> , <b>2002</b> , 40, 151-162	3.5	161
540	Iterated extended Kalman filter based visual-inertial odometry using direct photometric feedback. <i>International Journal of Robotics Research</i> , <b>2017</b> , 36, 1053-1072	5.7	160
539	Onboard IMU and monocular vision based control for MAVs in unknown in- and outdoor environments <b>2011</b> ,		159
538	A comparison of line extraction algorithms using 2D range data for indoor mobile robotics. <i>Autonomous Robots</i> , <b>2007</b> , 23, 97-111	3	157
537	Real-time monocular visual odometry for on-road vehicles with 1-point RANSAC <b>2009</b> ,		147
536	Cognitive maps for mobile robots—An object based approach. <i>Robotics and Autonomous Systems</i> , <b>2007</b> , 55, 359-371	3.5	145
535	A synchronized visual-inertial sensor system with FPGA pre-processing for accurate real-time SLAM <b>2014</b> ,		142
534	The hand of the DLR Hand Arm System: Designed for interaction. <i>International Journal of Robotics Research</i> , <b>2012</b> , 31, 1531-1555	5.7	141
533	Extrinsic self calibration of a camera and a 3D laser range finder from natural scenes <b>2007</b> ,		134
532	weedNet: Dense Semantic Weed Classification Using Multispectral Images and MAV for Smart Farming. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 588-595	4.2	133

531	UAV-based crop and weed classification for smart farming <b>2017</b> ,		133
530	Voxblox: Incremental 3D Euclidean Signed Distance Fields for on-board MAV planning <b>2017</b> ,		131
529	A comparison of line extraction algorithms using 2D laser rangefinder for indoor mobile robotics <b>2005</b> ,		130
528	From perception to decision: A data-driven approach to end-to-end motion planning for autonomous ground robots <b>2017</b> ,		124
527	STARLETH: A COMPLIANT QUADRUPEDAL ROBOT FOR FAST, EFFICIENT, AND VERSATILE LOCOMOTION <b>2012</b> , 483-490		122
526	Kinect v2 for mobile robot navigation: Evaluation and modeling <b>2015</b> ,		121
525	Get Out of My Lab: Large-scale, Real-Time Visual-Inertial Localization		112
524	Hybrid simultaneous localization and map building: a natural integration of topological and metric. <i>Robotics and Autonomous Systems</i> , <b>2003</b> , 44, 3-14	3.5	111
523	SegMatch: Segment based place recognition in 3D point clouds <b>2017</b> ,		110
522	Voronoi coverage of non-convex environments with a group of networked robots <b>2010</b> ,		104
521	What do people expect from robots? <b>2008</b> ,		104
520	MAV navigation through indoor corridors using optical flow <b>2010</b> ,		103
519	Real-time metric state estimation for modular vision-inertial systems <b>2011</b> ,		103
518	Challenging data sets for point cloud registration algorithms. <i>International Journal of Robotics Research</i> , <b>2012</b> , 31, 1705-1711	5.7	102
517	Towards Autonomous Indoor Micro VTOL. <i>Autonomous Robots</i> , <b>2005</b> , 18, 171-183	3	102
516	Maplab: An Open Framework for Research in Visual-Inertial Mapping and Localization. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 1418-1425	4.2	101
515	Continuous-time trajectory optimization for online UAV replanning <b>2016</b> ,		98
514	Structural inspection path planning via iterative viewpoint resampling with application to aerial robotics <b>2015</b> ,		96

513	Collision avoidance for aerial vehicles in multi-agent scenarios. <i>Autonomous Robots</i> , <b>2015</b> , 39, 101-121	3	96
512	Magnebike: A magnetic wheeled robot with high mobility for inspecting complex-shaped structures. <i>Journal of Field Robotics</i> , <b>2009</b> , 26, 453-476	6.7	93
511	Extending kalibr: Calibrating the extrinsics of multiple IMUs and of individual axes <b>2016</b> ,		93
510	WeedMap: A Large-Scale Semantic Weed Mapping Framework Using Aerial Multispectral Imaging and Deep Neural Network for Precision Farming. <i>Remote Sensing</i> , <b>2018</b> , 10, 1423	5	89
509	A UAV system for inspection of industrial facilities <b>2013</b> ,		87
508	Fast nonlinear Model Predictive Control for unified trajectory optimization and tracking <b>2016</b> ,		86
507	Multi-Robot Localization Using Relative Observations		84
506	Keyframe-Based Visual-Inertial SLAM using Nonlinear Optimization		84
505	Robust Real-Time Visual Odometry with a Single Camera and an IMU <b>2011</b> ,		83
504	Receding horizon path planning for 3D exploration and surface inspection. <i>Autonomous Robots</i> , <b>2018</b> , 42, 291-306	3	81
503	3D SLAM using planar segments <b>2006</b> ,		81
502	Efficient and Versatile Locomotion With Highly Compliant Legs. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2013</b> , 18, 449-458	5.5	80
501	Vision Based Position Control for MAVs Using One Single Circular Landmark. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2011</b> , 61, 495-512	2.9	80
500	The Voliro Omniorientational Hexacopter: An Agile and Maneuverable Tilttable-Rotor Aerial Vehicle. <i>IEEE Robotics and Automation Magazine</i> , <b>2018</b> , 25, 34-44	3.4	80
499	Toward Combining Speed, Efficiency, Versatility, and Robustness in an Autonomous Quadruped. <i>IEEE Transactions on Robotics</i> , <b>2014</b> , 30, 1427-1440	6.5	79
498	Multisensor on-the-fly localization:. <i>Robotics and Autonomous Systems</i> , <b>2001</b> , 34, 131-143	3.5	78
497	Brain-coupled interaction for semi-autonomous navigation of an assistive robot. <i>Robotics and Autonomous Systems</i> , <b>2010</b> , 58, 1246-1255	3.5	76
496	Quadrupedal locomotion using hierarchical operational space control. <i>International Journal of Robotics Research</i> , <b>2014</b> , 33, 1047-1062	5.7	75

495	Optimal Reciprocal Collision Avoidance for Multiple Non-Holonomic Robots. <i>Springer Tracts in Advanced Robotics</i> , <b>2013</b> , 203-216	0.5	74
494	The current state and future outlook of rescue robotics. <i>Journal of Field Robotics</i> , <b>2019</b> , 36, 1171-1191	6.7	73
493	Versatile distributed pose estimation and sensor self-calibration for an autonomous MAV <b>2012</b> ,		73
492	Control of dynamic gaits for a quadrupedal robot <b>2013</b> ,		69
491	People detection and tracking from aerial thermal views <b>2014</b> ,		67
490	Characterization of the compact Hokuyo URG-04LX 2D laser range scanner <b>2009</b> ,		67
489	Autonomous miniature flying robots: coming soon! - Research, Development, and Results. <i>IEEE Robotics and Automation Magazine</i> , <b>2007</b> , 14, 88-98	3.4	67
488	Antagonistically driven finger design for the anthropomorphic DLR Hand Arm System <b>2010</b> ,		66
487	An Innovative Space Rover with Extended Climbing Abilities <b>2000</b> , 333		64
486	Three-dimensional coverage path planning via viewpoint resampling and tour optimization for aerial robots. <i>Autonomous Robots</i> , <b>2016</b> , 40, 1059-1078	3	63
485	Real-time visual-inertial mapping, re-localization and planning onboard MAVs in unknown environments <b>2015</b> ,		63
484	Absolute scale in structure from motion from a single vehicle mounted camera by exploiting nonholonomic constraints <b>2009</b> ,		63
483	Robots for Education <b>2008</b> , 1283-1301		63
482	Model Predictive Control for Trajectory Tracking of Unmanned Aerial Vehicles Using Robot Operating System. <i>Studies in Computational Intelligence</i> , <b>2017</b> , 3-39	0.8	63
481	Cooperative Collision Avoidance for Nonholonomic Robots. <i>IEEE Transactions on Robotics</i> , <b>2018</b> , 34, 404-420	4.2	61
480	Linear vs Nonlinear MPC for Trajectory Tracking Applied to Rotary Wing Micro Aerial Vehicles. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 3463-3469	0.7	61
479	The SHERPA project: Smart collaboration between humans and ground-aerial robots for improving rescuing activities in alpine environments <b>2012</b> ,		61
478	Toward automated driving in cities using close-to-market sensors: An overview of the V-Charge Project <b>2013</b> ,		60

477	Image and animation display with multiple mobile robots. <i>International Journal of Robotics Research</i> , <b>2012</b> , 31, 753-773	5.7	59
476	Automatic detection of checkerboards on blurred and distorted images <b>2008</b> ,		59
475	Navigation planning for legged robots in challenging terrain <b>2016</b> ,		59
474	Simultaneous localization and odometry self calibration for mobile robot. <i>Autonomous Robots</i> , <b>2006</b> , 22, 75-85	3	58
473	Robust Model Predictive Flight Control of Unmanned Rotorcrafts. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2016</b> , 81, 443-469	2.9	57
472	Practice Makes Perfect: An Optimization-Based Approach to Controlling Agile Motions for a Quadruped Robot. <i>IEEE Robotics and Automation Magazine</i> , <b>2016</b> , 23, 34-43	3.4	57
471	Aerial robotic contact-based inspection: planning and control. <i>Autonomous Robots</i> , <b>2016</b> , 40, 631-655	3	56
470	<b>2014</b> ,		56
469	Bayesian space conceptualization and place classification for semantic maps in mobile robotics. <i>Robotics and Autonomous Systems</i> , <b>2008</b> , 56, 522-537	3.5	56
468	EKF-based 3D SLAM for structured environment reconstruction <b>2005</b> ,		56
467	Robot learning from demonstration. <i>Robotics and Autonomous Systems</i> , <b>2004</b> , 47, 65-67	3.5	55
466	Robots meet Humans-interaction in public spaces. <i>IEEE Transactions on Industrial Electronics</i> , <b>2005</b> , 52, 1530-1546	8.9	53
465	Optimal surveillance coverage for teams of micro aerial vehicles in GPS-denied environments using onboard vision. <i>Autonomous Robots</i> , <b>2012</b> , 33, 173-188	3	52
464	Rolling Shutter Camera Calibration <b>2013</b> ,		52
463	Tracking a depth camera: Parameter exploration for fast ICP <b>2011</b> ,		52
462	SLIP running with an articulated robotic leg <b>2010</b> ,		51
461	Reinforced Imitation: Sample Efficient Deep Reinforcement Learning for Mapless Navigation by Leveraging Prior Demonstrations. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 4423-4430	4.2	51
460	Visual Homing From Scale With an Uncalibrated Omnidirectional Camera. <i>IEEE Transactions on Robotics</i> , <b>2013</b> , 29, 1353-1365	6.5	50

459	Mobility evaluation of wheeled all-terrain robots. <i>Robotics and Autonomous Systems</i> , <b>2010</b> , 58, 508-519	3.5	50
458	An Efficient Sampling-Based Method for Online Informative Path Planning in Unknown Environments. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 1500-1507	4.2	49
457	Volumetric Instance-Aware Semantic Mapping and 3D Object Discovery. <i>IEEE Robotics and Automation Letters</i> , <b>2019</b> , 4, 3037-3044	4.2	49
456	Placeless Place-Recognition <b>2014</b> ,		49
455	Collaborative transportation using MAVs via passive force control <b>2017</b> ,		48
454	State estimation for legged robots on unstable and slippery terrain <b>2013</b> ,		48
453	Haptic terrain classification for legged robots <b>2010</b> ,		48
452	. <i>IEEE Transactions on Control Systems Technology</i> , <b>1994</b> , 2, 280-289	4.8	48
451	X-View: Graph-Based Semantic Multi-View Localization. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 1687-1694	4.2	47
450	Hybrid predictive control for aerial robotic physical interaction towards inspection operations <b>2014</b> ,		47
449	Local motion planning for collaborative multi-robot manipulation of deformable objects <b>2015</b> ,		45
448	Fast nonlinear model predictive control for multicopter attitude tracking on $SO(3)$ <b>2015</b> ,		45
447	Human detection using multimodal and multidimensional features <b>2008</b> ,		45
446	Autonomous Inland Water Monitoring: Design and Application of a Surface Vessel. <i>IEEE Robotics and Automation Magazine</i> , <b>2012</b> , 19, 62-72	3.4	44
445	Aerial service robots for visual inspection of thermal power plant boiler systems <b>2012</b> ,		44
444	Stability Analysis of Passive Dynamic Walking of Quadrupeds. <i>International Journal of Robotics Research</i> , <b>2010</b> , 29, 1173-1185	5.7	44
443	ScarLETH: Design and control of a planar running robot <b>2011</b> ,		44
442	Intuitive 3D Maps for MAV Terrain Exploration and Obstacle Avoidance. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2011</b> , 61, 473-493	2.9	43



441	Mobile micro-robots ready to use: Alice <b>2005</b> ,		43
440	Predicting actions to act predictably: Cooperative partial motion planning with maximum entropy models <b>2016</b> ,		43
439	Driving on Point Clouds: Motion Planning, Trajectory Optimization, and Terrain Assessment in Generic Nonplanar Environments. <i>Journal of Field Robotics</i> , <b>2017</b> , 34, 940-984	6.7	42
438	Topological Mapping and Scene Recognition With Lightweight Color Descriptors for an Omnidirectional Camera. <i>IEEE Transactions on Robotics</i> , <b>2014</b> , 30, 310-324	6.5	42
437	Reciprocal collision avoidance for multiple car-like robots <b>2012</b> ,		42
436	Feature-based multi-hypothesis localization and tracking using geometric constraints. <i>Robotics and Autonomous Systems</i> , <b>2003</b> , 44, 41-53	3.5	42
435	Wheel torque control for a rough terrain rover <b>2004</b> ,		41
434	SegMap: Segment-based mapping and localization using data-driven descriptors. <i>International Journal of Robotics Research</i> , <b>2020</b> , 39, 339-355	5.7	41
433	Self-supervised calibration for robotic systems <b>2013</b> ,		40
432	Using multi-camera systems in robotics: Efficient solutions to the NPnP problem <b>2013</b> ,		40
431	Orthogonal SLAM: a Step toward Lightweight Indoor Autonomous Navigation <b>2006</b> ,		40
430	Multi-robot system for artistic pattern formation <b>2011</b> ,		39
429	A data-driven approach for pedestrian intention estimation <b>2016</b> ,		39
428	Adaptive continuous-space informative path planning for online environmental monitoring. <i>Journal of Field Robotics</i> , <b>2017</b> , 34, 1427-1449	6.7	38
427	Motion- and Uncertainty-aware Path Planning for Micro Aerial Vehicles. <i>Journal of Field Robotics</i> , <b>2014</b> , 31, 676-698	6.7	38
426	Performance comparison of rough-terrain robots simulation and hardware. <i>Journal of Field Robotics</i> , <b>2007</b> , 24, 251-271	6.7	38
425	Probabilistic plane fitting in 3D and an application to robotic mapping <b>2004</b> ,		38
424	Real-time obstacle avoidance for polygonal robots with a reduced dynamic window		38

423	Integrated Data Management for a Fleet of Search-and-rescue Robots. <i>Journal of Field Robotics</i> , <b>2017</b> , 34, 539-582	6.7	37
422	From the Test Benches to the First Prototype of the muFly Micro Helicopter. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2009</b> , 54, 245-260	2.9	37
421	A General Approach to Spatiotemporal Calibration in Multisensor Systems. <i>IEEE Transactions on Robotics</i> , <b>2016</b> , 32, 383-398	6.5	37
420	A solar-powered hand-launchable UAV for low-altitude multi-day continuous flight <b>2015</b> ,		36
419	Safe Local Exploration for Replanning in Cluttered Unknown Environments for Microaerial Vehicles. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 1474-1481	4.2	34
418	The gist of maps - summarizing experience for lifelong localization <b>2015</b> ,		34
417	Inspection system for very thin and fragile surfaces, based on a pair of wall climbing robots with magnetic wheels <b>2007</b> ,		34
416	An Interpolated Dynamic Navigation Function		34
415	Design of small hand-launched solar-powered UAVs: From concept study to a multi-day world endurance record flight. <i>Journal of Field Robotics</i> , <b>2017</b> , 34, 1352-1377	6.7	33
414	Reciprocal Collision Avoidance With Motion Continuity Constraints. <i>IEEE Transactions on Robotics</i> , <b>2013</b> , 29, 899-912	6.5	33
413	Robust collision avoidance for multiple micro aerial vehicles using nonlinear model predictive control <b>2017</b> ,		33
412	3D path planning and execution for search and rescue ground robots <b>2013</b> ,		32
411	Closed-form solution for absolute scale velocity determination combining inertial measurements and a single feature correspondence <b>2011</b> ,		32
410	AgriColMap: Aerial-Ground Collaborative 3D Mapping for Precision Farming. <i>IEEE Robotics and Automation Letters</i> , <b>2019</b> , 4, 1085-1092	4.2	31
409	Dynamic trotting on slopes for quadrupedal robots <b>2015</b> ,		31
408	Autonomous Driving in Structured and Unstructured Environments		31
407	Camera/IMU Calibration Revisited. <i>IEEE Sensors Journal</i> , <b>2017</b> , 17, 3257-3268	4	30
406	Point cloud descriptors for place recognition using sparse visual information <b>2016</b> ,		30

405	Aerial picking and delivery of magnetic objects with MAVs <b>2017</b> ,		30
404	Scene recognition with omnidirectional vision for topological map using lightweight adaptive descriptors <b>2009</b> ,		30
403	Avalon. <i>IEEE Robotics and Automation Magazine</i> , <b>2010</b> , 17, 45-54	3.4	29
402	Autonomous Exploration and Inspection Path Planning for Aerial Robots Using the Robot Operating System. <i>Studies in Computational Intelligence</i> , <b>2019</b> , 67-111	0.8	28
401	A sampling-based partial motion planning framework for system-compliant navigation along a reference path <b>2013</b> ,		28
400	Generative object detection and tracking in 3D range data <b>2012</b> ,		28
399	Combined visual odometry and visual compass for off-road mobile robots localization. <i>Robotica</i> , <b>2012</b> , 30, 865-878	2.1	28
398	Short-term displacement of <i>Planktothrix rubescens</i> (cyanobacteria) in a pre-alpine lake observed using an autonomous sampling platform. <i>Limnology and Oceanography</i> , <b>2013</b> , 58, 1892-1906	4.8	28
397	Visual-inertial SLAM for a small helicopter in large outdoor environments <b>2012</b> ,		28
396	The ExoMars rover and Pasteur payload Phase A study: an approach to experimental astrobiology. <i>International Journal of Astrobiology</i> , <b>2006</b> , 5, 221-241	1.4	28
395	. <i>IEEE Robotics and Automation Magazine</i> , <b>2005</b> , 12, 58-65	3.4	28
394	The interactive autonomous mobile system RoboX		28
393	AMZ Driverless: The full autonomous racing system. <i>Journal of Field Robotics</i> , <b>2020</b> , 37, 1267	6.7	28
392	Incremental-Segment-Based Localization in 3-D Point Clouds. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 1832-1839	4.2	27
391	Keep it brief: Scalable creation of compressed localization maps <b>2015</b> ,		27
390	Visual industrial inspection using aerial robots <b>2014</b> ,		27
389	DP-FACT: Towards topological mapping and scene recognition with color for omnidirectional camera <b>2012</b> ,		27
388	Comprehensive Locomotion Performance Evaluation of All-Terrain Robots <b>2006</b> ,		27

387	Deriving and matching image fingerprint sequences for mobile robot localization		27
386	Infrastructure-based calibration of a multi-camera rig <b>2014</b> ,		26
385	Hybrid modeling and control of a coaxial unmanned rotorcraft interacting with its environment through contact <b>2013</b> ,		26
384	Deterministic initialization of metric state estimation filters for loosely-coupled monocular vision-inertial systems <b>2011</b> ,		26
383	Magnetic Wall Climbing Robot for Thin Surfaces with Specific Obstacles. <i>Springer Tracts in Advanced Robotics</i> , <b>2008</b> , 551-561	0.5	26
382	Compact magnetic wheeled robot with high mobility for inspecting complex shaped pipe structures <b>2007</b> ,		26
381	Automatic self-calibration of a vision system during robot motion		26
380	Finding the Exact Rotation between Two Images Independently of the Translation. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 696-709	0.9	26
379	Structure-based vision-laser matching <b>2016</b> ,		26
378	Ascento: A Two-Wheeled Jumping Robot <b>2019</b> ,		25
377	An informative path planning framework for UAV-based terrain monitoring. <i>Autonomous Robots</i> , <b>2020</b> , 44, 889-911	3	25
376	TSDF-based change detection for consistent long-term dense reconstruction and dynamic object discovery <b>2017</b> ,		25
375	A Robust Descriptor for Tracking Vertical Lines in Omnidirectional Images and Its Use in Mobile Robotics. <i>International Journal of Robotics Research</i> , <b>2009</b> , 28, 149-171	5.7	25
374	Flying solo and solar to Mars. <i>IEEE Robotics and Automation Magazine</i> , <b>2006</b> , 13, 44-52	3.4	25
373	Adapted magnetic wheel unit for compact robots inspecting complex shaped pipe structures <b>2007</b> ,		25
372	Design and modeling of dexterous aerial manipulator <b>2016</b> ,		25
371	Robust collaborative object transportation using multiple MAVs. <i>International Journal of Robotics Research</i> , <b>2019</b> , 38, 1020-1044	5.7	24
370	Maximum Likelihood Identification of Inertial Sensor Noise Model Parameters. <i>IEEE Sensors Journal</i> , <b>2016</b> , 16, 163-176	4	24

369	PaintCopter: An Autonomous UAV for Spray Painting on Three-Dimensional Surfaces. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 2862-2869	4.2	24
368	Lighting-invariant Adaptive Route Following Using Iterative Closest Point Matching. <i>Journal of Field Robotics</i> , <b>2015</b> , 32, 534-564	6.7	24
367	Inversion based direct position control and trajectory following for micro aerial vehicles <b>2013</b> ,		24
366	3D Position Tracking in Challenging Terrain. <i>International Journal of Robotics Research</i> , <b>2007</b> , 26, 167-186;7		24
365	An Omnidirectional Aerial Manipulation Platform for Contact-Based Inspection		24
364	Robust Visual Place Recognition with Graph Kernels <b>2016</b> ,		24
363	A framework for multi-robot pose graph SLAM <b>2016</b> ,		24
362	Perpetual flight with a small solar-powered UAV: Flight results, performance analysis and model validation <b>2016</b> ,		24
361	Visual place recognition with probabilistic voting <b>2017</b> ,		23
360	Map API - scalable decentralized map building for robots <b>2015</b> ,		23
359	A Markov semi-supervised clustering approach and its application in topological map extraction <b>2012</b> ,		23
358	Normal estimation for pointcloud using GPU based sparse tensor voting <b>2012</b> ,		23
357	A benchmarking tool for MAV visual pose estimation <b>2010</b> ,		23
356	. <i>IEEE Sensors Journal</i> , <b>2019</b> , 19, 3846-3860	4	22
355	Automated valet parking and charging for e-mobility <b>2016</b> ,		22
354	DP-Fusion: A generic framework for online multi sensor recognition <b>2012</b> ,		22
353	In-flight collision avoidance controller based only on OS4 embedded sensors. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , <b>2012</b> , 34, 294-307	2	22
352	HIGH COMPLIANT SERIES ELASTIC ACTUATION FOR THE ROBOTIC LEG SCARLETH <b>2011</b> ,		22

351	On the design of deformable input- / state-lattice graphs <b>2010</b> ,		22
350	<b>2011</b> ,		22
349	History-Aware Autonomous Exploration in Confined Environments Using MAVs <b>2018</b> ,		22
348	Real-time 6D stereo Visual Odometry with non-overlapping fields of view <b>2012</b> ,		21
347	Towards real-time multi-sensor information retrieval in Cloud Robotic System <b>2012</b> ,		21
346	Noise characterization of depth sensors for surface inspections <b>2012</b> ,		21
345	Path planning for motion dependent state estimation on micro aerial vehicles <b>2013</b> ,		21
344	Foldable magnetic wheeled climbing robot for the inspection of gas turbines and similar environments with very narrow access holes. <i>Industrial Robot</i> , <b>2010</b> , 37, 244-249	1.4	21
343	Cable-crawler robot for the inspection of high-voltage power lines that can passively roll over mast tops. <i>Industrial Robot</i> , <b>2010</b> , 37, 256-262	1.4	21
342	A relative map approach to SLAM based on shift and rotation invariants. <i>Robotics and Autonomous Systems</i> , <b>2007</b> , 55, 50-61	3.5	21
341	Design and Control of an Indoor Coaxial Helicopter <b>2006</b> ,		21
340	Simultaneous localization and map building: a global topological model with local metric maps		21
339	A robot system for automated handling in micro-world		21
338	RGBD terrain perception and dense mapping for legged robots. <i>International Journal of Applied Mathematics and Computer Science</i> , <b>2016</b> , 26, 81-97	1.7	21
337	Incremental topological segmentation for semi-structured environments using discretized GVG. <i>Autonomous Robots</i> , <b>2015</b> , 38, 143-160	3	20
336	Dense visual-inertial navigation system for mobile robots <b>2015</b> ,		20
335	Online informative path planning for active classification using UAVs <b>2017</b> ,		20
334	Autonomous robotic stone stacking with online next best object target pose planning <b>2017</b> ,		20

333	Omnidirectional visual obstacle detection using embedded FPGA <b>2015</b> ,		20
332	Teaching a core CS concept through robotics <b>2014</b> ,		20
331	Multiclass Multimodal Detection and Tracking in Urban Environments. <i>International Journal of Robotics Research</i> , <b>2010</b> , 29, 1498-1515	5.7	20
330	Robust embedded egomotion estimation <b>2011</b> ,		20
329	A lightweight SLAM algorithm using Orthogonal planes for indoor mobile robotics <b>2007</b> ,		20
328	Computer Vision Methods for Improved Mobile Robot State Estimation in Challenging Terrains. <i>Journal of Multimedia</i> , <b>2006</b> , 1,		20
327	Tree cavity inspection using aerial robots <b>2016</b> ,		20
326	Long-Endurance Sensing and Mapping Using a Hand-Launchable Solar-Powered UAV. <i>Springer Tracts in Advanced Robotics</i> , <b>2016</b> , 441-454	0.5	20
325	Beyond point clouds - 3D mapping and field parameter measurements using UAVs <b>2015</b> ,		19
324	Feature Relevance Estimation for Learning Pedestrian Behavior at Crosswalks <b>2015</b> ,		19
323	Adaptive pulsed laser line extraction for terrain reconstruction using a dynamic vision sensor. <i>Frontiers in Neuroscience</i> , <b>2013</b> , 7, 275	5.1	19
322	Robust state estimation for small unmanned airplanes <b>2014</b> ,		19
321	Highly compact robots for inspection of power plants. <i>Journal of Field Robotics</i> , <b>2012</b> , 29, 47-68	6.7	19
320	Smooth path planning in constrained environments <b>2009</b> ,		19
319	Collaborative stereo <b>2011</b> ,		19
318	<b>2012</b> ,		19
317	Modeling and System Identification of the muFly Micro Helicopter. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2010</b> , 57, 27-47	2.9	19
316	Multimodal detection and tracking of pedestrians in urban environments with explicit ground plane extraction <b>2008</b> ,		19

315	Towards Mapping of Cities. <i>Proceedings - IEEE International Conference on Robotics and Automation, 2007,</i>		19
314	InsBot: design of an autonomous mini mobile robot able to interact with cockroaches <b>2004,</b>		19
313	Wheel Torque Control in Rough Terrain - Modeling and Simulation		19
312	Grasping the interdisciplinarity of mechatronics. <i>IEEE Robotics and Automation Magazine, 2001, 8, 27-34</i>	3.4	19
311	Active Interaction Force Control for Contact-Based Inspection With a Fully Actuated Aerial Vehicle. <i>IEEE Transactions on Robotics, 2021, 37, 709-722</i>	6.5	19
310	Appearance-based landmark selection for efficient long-term visual localization <b>2016,</b>		19
309	Nonlinear MPC for Fixed-wing UAV Trajectory Tracking: Implementation and Flight Experiments <b>2017,</b>		18
308	<b>2016,</b>		18
307	Inferring Pedestrian Motions at Urban Crosswalks. <i>IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 544-555</i>	6.1	18
306	Two different tools for three-dimensional mapping: DE-based scan matching and feature-based loop detection. <i>Robotica, 2014, 32, 19-41</i>	2.1	18
305	Walking and crawling with ALoF: a robot for autonomous locomotion on four legs. <i>Industrial Robot, 2011, 38, 264-268</i>	1.4	18
304	The role of homing in visual topological navigation <b>2012,</b>		18
303	Adaptive rover behavior based on online empirical evaluation: Rover-Terrain interaction and near-to-far learning. <i>Journal of Field Robotics, 2010, 27, 158-180</i>	6.7	18
302			18
301	Online self-calibration for robotic systems. <i>International Journal of Robotics Research, 2016, 35, 357-380</i>	5.7	17
300	The Two-State Implicit Filter Recursive Estimation for Mobile Robots. <i>IEEE Robotics and Automation Letters, 2018, 3, 573-580</i>	4.2	17
299	Shared control of autonomous vehicles based on velocity space optimization <b>2014,</b>		17
298	Three-dimensional localization for the MagneBike inspection robot. <i>Journal of Field Robotics, 2011, 28, 180-203</i>	6.7	17



297	A MATLAB framework for efficient gait creation <b>2011,</b>		17
296	Feature-based multi-hypothesis localization and tracking for mobile robots using geometric constraints		17
295	C-blox: A Scalable and Consistent TSDF-based Dense Mapping Approach <b>2018,</b>		17
294	An incremental sampling-based approach to inspection planning: the rapidly exploring random tree of trees. <i>Robotica</i> , <b>2017</b> , 35, 1327-1340	2.1	16
293	Uniform coverage structural inspection path planning for micro aerial vehicles <b>2015,</b>		16
292	Build Your Own Visual-Inertial Drone: A Cost-Effective and Open-Source Autonomous Drone. <i>IEEE Robotics and Automation Magazine</i> , <b>2018</b> , 25, 89-103	3.4	16
291	. <i>IEEE Sensors Journal</i> , <b>2016</b> , 16, 5433-5443	4	16
290	Towards automatic discovery of agile gaits for quadrupedal robots <b>2014,</b>		16
289	Distributed Coverage Control on Surfaces in 3D Space <b>2010,</b>		16
288	3D surveillance coverage using maps extracted by a monocular SLAM algorithm <b>2011,</b>		16
287	Safe Vehicle Navigation in Dynamic Urban Scenarios <b>2008,</b>		16
286	Some results on SLAM and the closing the loop problem <b>2005,</b>		16
285	A hybrid approach for robust and precise mobile robot navigation with compact environment modeling		16
284	Towards Intelligent Miniature Flying Robots. <i>Springer Tracts in Advanced Robotics</i> , <b>2006</b> , 429-440	0.5	16
283	Voxgraph: Globally Consistent, Volumetric Mapping Using Signed Distance Function Submaps. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 227-234	4.2	16
282	A spatio temporal spectral framework for plant stress phenotyping. <i>Plant Methods</i> , <b>2019</b> , 15, 13	5.8	15
281	LQR-Assisted Whole-Body Control of a Wheeled Bipedal Robot With Kinematic Loops. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 3745-3752	4.2	15
280	Meteorological path planning using dynamic programming for a solar-powered UAV <b>2015,</b>		15

279	A low-cost and fail-safe Inertial Navigation System for airplanes <b>2012</b> ,		15
278	SFLy: Swarm of micro flying robots <b>2012</b> ,		15
277	Anticipation- and error-related EEG signals during realistic human-machine interaction: a study on visual and tactile feedback. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference, 2012, 2012, 6723-6</i>	0.9	15
276	. <i>IEEE Transactions on Aerospace and Electronic Systems, 2020, 56, 2792-2805</i>	3.7	15
275	OREOS: Oriented Recognition of 3D Point Clouds in Outdoor Scenarios <b>2019</b> ,		15
274	Robotic technologies for solar-powered UAVs: Fully autonomous updraft-aware aerial sensing for multiday search-and-rescue missions. <i>Journal of Field Robotics, 2018, 35, 612-640</i>	6.7	15
273	Comparing Task Simplifications to Learn Closed-Loop Object Picking Using Deep Reinforcement Learning. <i>IEEE Robotics and Automation Letters, 2019, 4, 1549-1556</i>	4.2	14
272	Free LSD: Prior-Free Visual Landing Site Detection for Autonomous Planes. <i>IEEE Robotics and Automation Letters, 2018, 3, 2545-2552</i>	4.2	14
271	Hybrid predictive control of a coaxial aerial robot for physical interaction through contact. <i>Control Engineering Practice, 2014, 32, 96-112</i>	3.9	14
270	Visual-inertial self-calibration on informative motion segments <b>2017</b> ,		14
269	Observability Properties and Optimal Trajectories for On-line Odometry Self-Calibration <b>2006</b> ,		14
268	Motion Planning for Car-Like Vehicles in Dynamic Urban Scenarios <b>2006</b> ,		14
267	Open challenges in SLAM: an optimal solution based on shift and rotation invariants <b>2004</b> ,		14
266	On developing a voice-enabled interface for interactive tour-guide robots. <i>Advanced Robotics, 2003, 17, 599-616</i>	1.7	14
265	Design and Implementation of an Innovative Micro-Rover <b>1998</b> , 181		14
264	Sparse 3D Topological Graphs for Micro-Aerial Vehicle Planning <b>2018</b> ,		14
263	Attitude and Cruise Control of a VTOL Tiltwing UAV. <i>IEEE Robotics and Automation Letters, 2019, 4, 2683-2690</i>	4.5	13
262	Large-scale, real-time visual-inertial localization revisited. <i>International Journal of Robotics Research, 2020, 39, 1061-1084</i>	5.7	13

261	An open-source system for vision-based micro-aerial vehicle mapping, planning, and flight in cluttered environments. <i>Journal of Field Robotics</i> , <b>2020</b> , 37, 642-666	6.7	13
260	. <i>IEEE Transactions on Industrial Electronics</i> , <b>2011</b> , 58, 5296-5303	8.9	13
259	A monocular vision-based system for 6D relative robot localization <b>2011</b> ,		13
258	Comparison of cost functions for electrically driven running robots <b>2012</b> ,		13
257	Performance Optimization of All-Terrain Robots: A 2D Quasi-Static Tool <b>2006</b> ,		13
256	A cognitive modeling of space using fingerprints of places for mobile robot navigation		13
255	A navigation framework for multiple mobile robots and its application at the Expo.02 exhibition		13
254	A Tale of Two Object Recognition Methods for Mobile Robots <b>2008</b> , 353-362		13
253	Evaluation of Combined Time-Offset Estimation and Hand-Eye Calibration on Robotic Datasets. <i>Springer Proceedings in Advanced Robotics</i> , <b>2018</b> , 145-159	0.6	13
252	Design of an Autonomous Racecar: Perception, State Estimation and System Integration <b>2018</b> ,		13
251	A Virtual Reality Interface for an Autonomous Spray Painting UAV. <i>IEEE Robotics and Automation Letters</i> , <b>2019</b> , 4, 2870-2877	4.2	12
250	<b>2013</b> ,		12
249	Efficient descriptor learning for large scale localization <b>2017</b> ,		12
248	Trajectory-Based Place-Recognition for Efficient Large Scale Localization. <i>International Journal of Computer Vision</i> , <b>2017</b> , 124, 49-64	10.6	12
247	Real-time visual-inertial localization for aerial and ground robots <b>2015</b> ,		12
246	Climbing robot for corrosion monitoring of reinforced concrete structures <b>2012</b> ,		12
245	Object and animation display with multiple aerial vehicles <b>2012</b> ,		12
244	Reinforcement learning of single legged locomotion <b>2013</b> ,		12

243	A monocular vision-based system for 6D relative robot localization <b>2011</b> ,		12
242	Compact Q-learning optimized for micro-robots with processing and memory constraints. <i>Robotics and Autonomous Systems</i> , <b>2004</b> , 48, 49-61	3.5	12
241	Design of an Ultra-lightweight Autonomous Solar Airplane for Continuous Flight <b>2006</b> , 441-452		12
240	Collaborative navigation for flying and walking robots <b>2016</b> ,		12
239	<b>2016</b> ,		12
238	The ETH-MAV Team in the MBZ International Robotics Challenge. <i>Journal of Field Robotics</i> , <b>2019</b> , 36, 78-103	6.7	12
237	Trajectory Optimization for Wheeled-Legged Quadrupedal Robots Driving in Challenging Terrain. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 4172-4179	4.2	11
236	Predicting pedestrian crossing using Quantile Regression forests <b>2016</b> ,		11
235	Fusion of optical flow and inertial measurements for robust egomotion estimation <b>2014</b> ,		11
234	Navigation on point-cloud $\mathbb{R}^3$ Riemannian metric approach <b>2014</b> ,		11
233	Rover control based on an optimal torque distribution - Application to 6 motorized wheels passive rover <b>2010</b> ,		11
232	Highly compact robots for inspection of power plants <b>2010</b> ,		11
231	Bayesian on-line learning of driving behaviors <b>2011</b> ,		11
230	New design of the steering mechanism for a mini coaxial helicopter <b>2008</b> ,		11
229	Towards a Cognitive Probabilistic Representation of Space for Mobile Robots <b>2006</b> ,		11
228	Robot Navigation in Crowded Environments Using Deep Reinforcement Learning <b>2020</b> ,		11
227	Fusion of IMU and Vision for Absolute Scale Estimation in Monocular SLAM <b>2010</b> , 287-299		11
226	. <i>IEEE Robotics and Automation Magazine</i> , <b>2020</b> , 0-0	3.4	11

225	Mapping on the Fly: Real-Time 3D Dense Reconstruction, Digital Surface Map and Incremental Orthomosaic Generation for Unmanned Aerial Vehicles. <i>Springer Proceedings in Advanced Robotics</i> , <b>2018</b> , 383-396	0.6	11
224	Toward Micro Wall-Climbing Robots Using Biomimetic Fibrillar Adhesives <b>2006</b> , 39-46		11
223	Robust state estimation for Micro Aerial Vehicles based on system dynamics <b>2015</b> ,		10
222	Model-based transition optimization for a VTOL tailsitter <b>2017</b> ,		10
221	A framework for maximum likelihood parameter identification applied on MAVs. <i>Journal of Field Robotics</i> , <b>2018</b> , 35, 5-22	6.7	10
220	Continuous-Time Estimation of Attitude Using B-Splines on Lie Groups. <i>Journal of Guidance, Control, and Dynamics</i> , <b>2016</b> , 39, 242-261	2.1	10
219	Automatic Segmentation of Tree Structure From Point Cloud Data. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 3043-3050	4.2	10
218	Design and evaluation of a fin-based underwater propulsion system <b>2010</b> ,		10
217	DisCoverage for non-convex environments with arbitrary obstacles <b>2011</b> ,		10
216	FAST RANGE IMAGE SEGMENTATION FOR INDOOR 3D-SLAM. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2007</b> , 40, 475-480		10
215	Improving the expressiveness of mobile robots		10
214	Collaborative localization of aerial and ground robots through elevation maps <b>2016</b> ,		10
213	Long-duration fully autonomous operation of rotorcraft unmanned aerial systems for remote-sensing data acquisition. <i>Journal of Field Robotics</i> , <b>2020</b> , 37, 137-157	6.7	10
212	Local Positioning System Using UWB Range Measurements for an Unmanned Blimp. <i>IEEE Robotics and Automation Letters</i> , <b>2018</b> , 3, 2971-2978	4.2	9
211	Control of off-road mobile robots using visual odometry and slip compensation. <i>Advanced Robotics</i> , <b>2013</b> , 27, 893-906	1.7	9
210	Surface reconstruction and path planning for industrial inspection with a climbing robot <b>2012</b> ,		9
209	Configurable real-time simulation suite for coaxial rotor UAVs <b>2013</b> ,		9
208	Towards Palm-Size Autonomous Helicopters. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2011</b> , 61, 445-471	2.9	9

207	Design of the autonomous micro helicopter muFly. <i>Mechatronics</i> , <b>2011</b> , 21, 765-775	3	9
206	A novel approach for steering wheel synchronization with velocity/acceleration limits and mechanical constraints <b>2012</b> ,		9
205	Quadrupedal Robots with Stiff and Compliant Actuation. <i>Automatisierungstechnik</i> , <b>2012</b> , 60, 682-691	0.8	9
204	HAPTIC TERRAIN CLASSIFICATION ON NATURAL TERRAINS FOR LEGGED ROBOTS <b>2010</b> ,		9
203	Examination of voiding in seated women using a remote-controlled ultrasound probe. <i>Obstetrics and Gynecology</i> , <b>1998</b> , 91, 297-301	4.9	9
202	Path following for autonomous vehicle navigation with inherent safety and dynamics margin <b>2008</b> ,		9
201	Asymptotics of orthogonal polynomials with respect to an analytic weight with algebraic singularities on the circle. <i>International Mathematics Research Notices</i> , <b>2006</b> ,	0.8	9
200	A new approach to segmentation of 2D range scans into linear regions <b>2007</b> ,		9
199	Depth Based Semantic Scene Completion With Position Importance Aware Loss. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 219-226	4.2	9
198	Design and optimal control of a tiltrotor micro-aerial vehicle for efficient omnidirectional flight. <i>International Journal of Robotics Research</i> , <b>2020</b> , 39, 1305-1325	5.7	9
197	Maximum likelihood parameter identification for MAVs <b>2016</b> ,		9
196	Flying Robots <b>2016</b> , 623-670		9
195	Collaborative 3D Reconstruction Using Heterogeneous UAVs: System and Experiments. <i>Springer Proceedings in Advanced Robotics</i> , <b>2017</b> , 43-56	0.6	8
194	Experimental Comparison of Visual-Aided Odometry Methods for Rail Vehicles. <i>IEEE Robotics and Automation Letters</i> , <b>2019</b> , 4, 1815-1822	4.2	8
193	VersaVIS-An Open Versatile Multi-Camera Visual-Inertial Sensor Suite. <i>Sensors</i> , <b>2020</b> , 20,	3.8	8
192	An adaptive descriptor for uncalibrated omnidirectional images - towards scene reconstruction by trifocal tensor <b>2013</b> ,		8
191	Explicit model predictive control and L1-navigation strategies for fixed-wing UAV path tracking <b>2014</b> ,		8
190	Spatio-temporal laser to visual/inertial calibration with applications to hand-held, large scale scanning <b>2014</b> ,		8

189	Curb detection for a pedestrian robot in urban environments <b>2012,</b>		8
188	Collision avoidance for multiple agents with joint utility maximization <b>2013,</b>		8
187	RFID-based hybrid metric-topological SLAM for GPS-denied environments <b>2013,</b>		8
186	MagneBike: Compact magnetic wheeled robot for power plant inspection <b>2010,</b>		8
185	Improved appearance-based matching in similar and dynamic environments using a Vocabulary tree <b>2010,</b>		8
184	Compact magnetic wheeled robot for inspecting complex shaped structures in generator housings and similar environments <b>2009,</b>		8
183	Incremental object part detection toward object classification in a sequence of noisy range images <b>2008,</b>		8
182	Path Following for Autonomous Vehicle Navigation Based on Kinodynamic Control. <i>Journal of Computing and Information Technology</i> , <b>2009</b> , 17, 17	0.4	8
181	Knowledge-based Extraction of Area of Expertise for Cooperation in Learning <b>2006,</b>		8
180	Voice enabled interface for interactive tour-guide robots		8
179	Predictive estimation of the road-tire friction coefficient <b>2006,</b>		8
178	Nonlinear Model Predictive Velocity Control of a VTOL Tiltwing UAV. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 5776-5783	4.2	8
177	Multi-Robot Formation Control via a Real-Time Drawing Interface. <i>Springer Tracts in Advanced Robotics</i> , <b>2014</b> , 175-189	0.5	8
176	Real-time dense surface reconstruction for aerial manipulation <b>2016,</b>		8
175	Disturbance Estimation and Rejection for High-Precision Multirotor Position Control <b>2019,</b>		8
174	Towards optimal force distribution for walking excavators <b>2015,</b>		7
173	Strategies for sensor-fault compensation on UAVs: Review, discussions & additions <b>2014,</b>		7
172	Information theory based validation for point-cloud segmentation aided by tensor voting <b>2013,</b>		7

171	Sampling-based motion planning for active multirotor system identification <b>2017</b> ,		7
170	Onboard real-time dense reconstruction of large-scale environments for UAV <b>2017</b> ,		7
169	Interactive Learning in Continuous Multimodal Space: A Bayesian Approach to Action-Based Soft Partitioning and Learning. <i>IEEE Transactions on Autonomous Mental Development</i> , <b>2012</b> , 4, 124-138		7
168	<b>2013</b> ,		7
167	A comparative psychophysical and EEG study of different feedback modalities for HRI <b>2008</b> ,		7
166	Predictive estimation of the road-tire friction coefficient <b>2006</b> ,		7
165	Monocular Omnidirectional Visual Odometry for Outdoor Ground Vehicles <b>2008</b> , 206-215		7
164	Exploiting Repetitive Object Patterns for Model Compression and Completion. <i>Lecture Notes in Computer Science</i> , <b>2010</b> , 296-309	0.9	7
163	Vision Based Position Control for MAVs Using One Single Circular Landmark <b>2010</b> , 495-512		7
162	Will It Last? Learning Stable Features for Long-Term Visual Localization <b>2016</b> ,		7
161	3D multi-robot patrolling with a two-level coordination strategy. <i>Autonomous Robots</i> , <b>2019</b> , 43, 1747-1739		7
160	Dynamic System Identification, and Control for a Cost-Effective and Open-Source Multi-rotor MAV. <i>Springer Proceedings in Advanced Robotics</i> , <b>2018</b> , 605-620	0.6	7
159	Redundant Perception and State Estimation for Reliable Autonomous Racing <b>2019</b> ,		6
158	VIZARD: Reliable Visual Localization for Autonomous Vehicles in Urban Outdoor Environments <b>2019</b> ,		6
157	Multiple Hypothesis Semantic Mapping for Robust Data Association. <i>IEEE Robotics and Automation Letters</i> , <b>2019</b> , 1-1	4.2	6
156	Robust explicit model predictive flight control of unmanned rotorcrafts: Design and experimental evaluation <b>2014</b> ,		6
155	On field radiometric calibration for multispectral cameras <b>2017</b> ,		6
154	Gone with the wind: Nonlinear guidance for small fixed-wing aircraft in arbitrarily strong windfields <b>2017</b> ,		6



153	A low-cost system for high-rate, high-accuracy temporal calibration for LIDARs and cameras <b>2017,</b>		6
152	Detection and characterization of moving objects with aerial vehicles using inertial-optical flow <b>2015,</b>		6
151	Human - robot swarm interaction for entertainment <b>2014,</b>		6
150	Passive dynamic walking with quadrupeds - Extensions towards 3D <b>2010,</b>		6
149	Robotic crawler for inspecting generators with very narrow air gaps <b>2009,</b>		6
148	Electric vehicle travel optimization-customer satisfaction despite resource constraints <b>2012,</b>		6
147	Reasoning of abstract motion of a target object through task order with natural language □ pre-knowledge of object-handling-task programming for a service robot. <i>Advanced Robotics</i> , <b>2006,</b> 20, 391-412	1.7	6
146	A bayesian conceptualization of space for mobile robots <b>2007,</b>		6
145	Heterogeneous and Hierarchical Cooperative Learning via Combining Decision Trees <b>2006,</b>		6
144	The autonomous miniature robot Alice: from prototypes to applications		6
143	State Estimation for Shore Monitoring Using an Autonomous Surface Vessel. <i>Springer Tracts in Advanced Robotics</i> , <b>2016,</b> 745-760	0.5	6
142	Comparison of Boosting Based Terrain Classification Using Proprioceptive and Exteroceptive Data. <i>Springer Tracts in Advanced Robotics</i> , <b>2009,</b> 93-102	0.5	6
141	Multisensor on-the-fly localization using laser and vision		6
140	End-to-End Velocity Estimation for Autonomous Racing. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 6869-6875	4.2	6
139	Robust map generation for fixed-wing UAVs with low-cost highly-oblique monocular cameras <b>2016,</b>		6
138	Modular Sensor Fusion for Semantic Segmentation <b>2018,</b>		6
137	Fast collision detection through bounding volume hierarchies in workspace-time space for sampling-based motion planners <b>2015,</b>		5
136	Detection of slippery terrain with a heterogeneous team of legged robots <b>2014,</b>		5

135	Squeezed screw trajectories for smooth regrasping movements of robot fingers. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , <b>2013</b> , 35, 83-92	2	5
134	METAL: A framework for mixture-of-experts task and attention learning. <i>Journal of Intelligent and Fuzzy Systems</i> , <b>2012</b> , 23, 111-128	1.6	5
133	System integration and fin trajectory Design for a robotic sea-turtle <b>2013</b> ,		5
132	Modeling and decoupling control of the coax micro helicopter <b>2011</b> ,		5
131	Collaborative stereo <b>2011</b> ,		5
130	2D laser-based probabilistic motion tracking in urban-like environments. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , <b>2009</b> , 31,	2	5
129	Compact climbing robot rolling on flexible magnetic rollers, for generator inspection with the rotor still installed. <i>Industrial Robot</i> , <b>2012</b> , 39, 236-241	1.4	5
128	Micro Helicopter Steering: Review and Design for the muFly Project <b>2008</b> ,		5
127	Robot-Animal Interaction: Perception and Behavior of Insbot. <i>International Journal of Advanced Robotic Systems</i> , <b>2006</b> , 3, 16	1.4	5
126	Robot Navigation by Panoramic Vision and Attention Guided Features <b>2006</b> ,		5
125	ANTARCTICA ROVER DESIGN AND OPTIMIZATION FOR LIMITED POWER CONSUMPTION. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2006</b> , 39, 788-793		5
124	Towards a multilevel cognitive probabilistic representation of space <b>2005</b> ,		5
123	Handling the Inconsistency of Relative Map Filter		5
122	Model Predictive Control for Micro Aerial Vehicles: A Survey <b>2021</b> ,		5
121	MAGNETIC WHEELED ROBOT WITH HIGH MOBILITY BUT ONLY 2 DOF TO CONTROL <b>2008</b> ,		5
120	Robust Feature Extraction and Matching for Omnidirectional Images. <i>Springer Tracts in Advanced Robotics</i> , <b>2008</b> , 71-81	0.5	5
119	PHASER: A Robust and Correspondence-Free Global Pointcloud Registration. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 855-862	4.2	5
118	Non-uniform sampling strategies for continuous correction based trajectory estimation <b>2016</b> ,		5

117	Robox, a Remarkable Mobile Robot for the Real World <b>2003</b> , 178-187	5
116	Appearance-based landmark selection for visual localization. <i>Journal of Field Robotics</i> , <b>2019</b> , 36, 1041-1073	4
115	Vision-only fully automated driving in dynamic mixed-traffic scenarios. <i>IT - Information Technology</i> , <b>2015</b> , 57, 231-242	0.4 4
114	An Approach for Semantic Segmentation of Tree-like Vegetation <b>2019</b> ,	4
113	An experimental evaluation of the RT-WMP routing protocol in an indoor environment <b>2013</b> ,	4
112	Map quality evaluation for visual localization <b>2017</b> ,	4
111	A direct formulation for camera calibration <b>2017</b> ,	4
110	Direct state-to-action mapping for high DOF robots using ELM <b>2015</b> ,	4
109	Tracking a depth camera: Parameter exploration for fast ICP <b>2011</b> ,	4
108	COMPACT CLIMBING ROBOT ROLLING ON FLEXIBLE MAGNETIC ROLLERS, FOR GENERATOR INSPECTION WITH THE ROTOR STILL INSTALLED <b>2011</b> ,	4
107	Learning user habits for semi-autonomous navigation using low throughput interfaces <b>2011</b> ,	4
106	Design and calibration of large microphone arrays for robotic applications <b>2012</b> ,	4
105	Adaptive control strategies for open-loop dynamic hopping <b>2009</b> ,	4
104	WALKING AND CRAWLING WITH ALoF - A ROBOT FOR AUTONOMOUS LOCOMOTION ON FOUR LEGS <b>2010</b> ,	4
103	Planetary Vehicle Suspension Options. <i>Aerospace Conference Proceedings IEEE</i> , <b>2008</b> ,	4
102	Towards Real-Time Sensor-Based Path Planning in Highly Dynamic Environments <b>2007</b> , 135-148	4
101	Toward Online Probabilistic Path Replanning in Dynamic Environments <b>2006</b> ,	4
100	Dynamics modeling and parameter identification for autonomous vehicle navigation <b>2007</b> ,	4

99	Bayesian Modeling and Reasoning for Real World Robotics: Basics and Examples. <i>Lecture Notes in Computer Science</i> , <b>2004</b> , 186-201	0.9	4
98	Topological SLAM. <i>Springer Tracts in Advanced Robotics</i> , <b>2008</b> , 99-127	0.5	4
97	Multiclass Multimodal Detection and Tracking in Urban Environments ? . <i>Springer Tracts in Advanced Robotics</i> , <b>2010</b> , 125-135	0.5	4
96	Dynamic End Effector Tracking With an Omnidirectional Parallel Aerial Manipulator. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 8165-8172	4.2	4
95	From the Test Benches to the First Prototype of the muFly Micro Helicopter <b>2008</b> , 245-260		4
94	Relaxing the planar assumption: 3D state estimation for an autonomous surface vessel. <i>International Journal of Robotics Research</i> , <b>2015</b> , 34, 1604-1621	5.7	3
93	Learning Densities in Feature Space for Reliable Segmentation of Indoor Scenes. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 1032-1038	4.2	3
92	Full-body multi-objective controller for aerial manipulation <b>2016</b> ,		3
91	Reshaping our model of the world over time <b>2016</b> ,		3
90	Victim Detection from a Fixed-Wing UAV: Experimental Results. <i>Lecture Notes in Computer Science</i> , <b>2015</b> , 432-443	0.9	3
89	ROCK* Efficient black-box optimization for policy learning <b>2014</b> ,		3
88	AIRobots: Innovative aerial service robots for remote inspection by contact <b>2013</b> ,		3
87	Searching for multiple targets using Probabilistic Quadrees <b>2011</b> ,		3
86	Key technologies for intelligent and safer cars - From motion estimation to predictive collision avoidance <b>2010</b> ,		3
85	Modeling and System Identification of the muFly Micro Helicopter <b>2009</b> , 27-47		3
84	WHEELED POLE-CLIMBING-ROBOT WITH HIGH PAYLOAD CAPABILITY, USING A CLAMPING MECHANISM WHICH IS INSPIRED BY THE ROPE-CLAMPS IN HUMAN CLIMBING <b>2010</b> ,		3
83	A Bayesian approach to conceptualization using reinforcement learning <b>2007</b> ,		3
82	Bayesian programming for topological global localization with fingerprints <b>2004</b> ,		3

81	"May you have a strong (-typed) foundation" why strong-typed programming languages do matter <b>2004,</b>		3
80	Slam based on quantities invariant of the robot's configuration. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2004</b> , 37, 734-739		3
79	Multi-resolution SLAM for Real World Navigation. <i>Springer Tracts in Advanced Robotics</i> , <b>2005</b> , 442-452	0.5	3
78	Robots go automotive - the SPARC approach <b>2005,</b>		3
77	Narrative-level visual interpretation of human motion for human-robot interaction		3
76	IAN: Multi-Behavior Navigation Planning for Robots in Real, Crowded Environments <b>2020,</b>		3
75	Dynamic Object Aware LiDAR SLAM based on Automatic Generation of Training Data <b>2021,</b>		3
74	Topological Global Localization and Mapping with Fingerprints and Uncertainty. <i>Springer Tracts in Advanced Robotics</i> , <b>2006</b> , 99-111	0.5	3
73	Comparing Learning Attention Control in Perceptual and Decision Space. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 242-256	0.9	3
72	Learning to Identify Users and Predict Their Destination in a Robotic Guidance Application. <i>Springer Tracts in Advanced Robotics</i> , <b>2010</b> , 377-387	0.5	3
71	Adaptive MultiRobot Coverage of Curved Surfaces. <i>Springer Tracts in Advanced Robotics</i> , <b>2014</b> , 3-16	0.5	3
70	Vision and IMU Data Fusion: Closed-Form Determination of the Absolute Scale, Speed, and Attitude <b>2012</b> , 1335-1354		3
69	Hybrid Topological and 3D Dense Mapping through Autonomous Exploration for Large Indoor Environments <b>2020,</b>		3
68	A Unified Approach for Autonomous Volumetric Exploration of Large Scale Environments Under Severe Odometry Drift. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 4504-4511	4.2	3
67	Target-based calibration of underwater camera housing parameters <b>2016,</b>		3
66	Improved Tau-Guidance and Vision-Aided Navigation for Robust Autonomous Landing of UAVs. <i>Springer Proceedings in Advanced Robotics</i> , <b>2018</b> , 115-128	0.6	3
65	LandmarkBoost: Efficient visualContext Classifiers for Robust Localization <b>2018,</b>		3
64	CERBERUS: Autonomous Legged and Aerial Robotic Exploration in the Tunnel and Urban Circuits of the DARPA Subterranean Challenge <b>2022</b> , 2, 274-324		3

63	An Evaluation of Moreau's Time-Stepping Scheme for the Simulation of a Legged Robot <b>2014</b> ,		2
62	Policy Learning with an Efficient Black-Box Optimization Algorithm. <i>International Journal of Humanoid Robotics</i> , <b>2015</b> , 12, 1550029	1.2	2
61	Excitation and stabilization of passive dynamics in locomotion using hierarchical operational space control <b>2014</b> ,		2
60	Unmanned coaxial rotorcraft force and position control for physical interaction through contact <b>2013</b> ,		2
59	Deterministic Kinodynamic Planning with hardware demonstrations <b>2011</b> ,		2
58	Robust embedded egomotion estimation <b>2011</b> ,		2
57	Unsupervised discovery of repetitive objects <b>2010</b> ,		2
56	Inferring the semantics of direction signs in public places <b>2010</b> ,		2
55	FOLDABLE MAGNETIC WHEELED CLIMBING ROBOT FOR THE INSPECTION OF GAS TURBINES <b>2009</b> ,		2
54	Object classification based on a geometric grammar with a range camera <b>2009</b> ,		2
53	Detecting pedestrians at very small scales <b>2009</b> ,		2
52	The CoaX Micro-helicopter: A Flying Platform for Education and Research <b>2012</b> , 89-99		2
51	Energetics of passivity-based running with high-compliance series elastic actuation. <i>International Journal of Mechatronics and Manufacturing Systems</i> , <b>2012</b> , 5, 120	0.8	2
50	Performance evaluation of a vertical line descriptor for omnidirectional images <b>2008</b> ,		2
49	Improving the Consistency of Relative Map <b>2006</b> ,		2
48	Hybrid simultaneous localization and map building: closing the loop with multi-hypotheses tracking		2
47	LAMALice: a nanorover for planetary exploration		2
46	SemSegMap [BD Segment-based Semantic Localization <b>2021</b> ,		2

45	Human-State-Aware Controller for a Tethered Aerial Robot Guiding a Human by Physical Interaction. <i>IEEE Robotics and Automation Letters</i> , <b>2022</b> , 7, 2827-2834	4.2	2
44	ScarLETH: Design and control of a planar running robot		2
43	IDOL: A Framework for IMU-DVS Odometry using Lines <b>2020</b> ,		2
42	Spherical Multi-Modal Place Recognition for Heterogeneous Sensor Systems <b>2021</b> ,		2
41	Online Informative Path Planning for Active Information Gathering of a 3D Surface <b>2021</b> ,		2
40	Characterization and Comparison of Rover Locomotion Performance Based on Kinematic Aspects. <i>Springer Tracts in Advanced Robotics</i> , <b>2008</b> , 189-198	0.5	2
39	A Hierarchical Concept Oriented Representation for Spatial Cognition in Mobile Robots <b>2007</b> , 243-256		2
38	Error-Driven Refinement of Multi-scale Gaussian Maps. <i>Springer Tracts in Advanced Robotics</i> , <b>2011</b> , 503-508		2
37	Delay and Dropout Tolerant State Estimation for MAVs. <i>Springer Tracts in Advanced Robotics</i> , <b>2014</b> , 571-584		2
36	Distributed PDOP Coverage Control: Providing Large-Scale Positioning Service Using a Multi-Robot System. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 2217-2224	4.2	2
35	Hough <sup>2</sup> Map Iterative Event-Based Hough Transform for High-Speed Railway Mapping. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 2745-2752	4.2	2
34	Generalized information filtering for MAV parameter estimation <b>2016</b> ,		2
33	Monocular Visual-Inertial SLAM for Fixed-Wing UAVs Using Sliding Window Based Nonlinear Optimization. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 569-581	0.9	2
32	Meteorology-Aware Multi-Goal Path Planning for Large-Scale Inspection Missions with Solar-Powered Aircraft. <i>Journal of Aerospace Information Systems</i> , <b>2019</b> , 16, 390-408	1	2
31	Navigation aware planning for tandem UAV missions in GNSS challenging environments <b>2019</b> ,		2
30	Visual-Inertial Teach and Repeat Powered by Google Tango <b>2018</b> ,		2
29	Design of an Ultra-lightweight Autonomous Solar Airplane for Continuous Flight <b>2006</b> , 441		2
28	Extending the Performance of Human Classifiers Using a Viewpoint Specific Approach <b>2015</b> ,		1

27	Kinematic batch calibration for legged robots <b>2013</b> ,		1
26	Tightly Coupled Visual-Inertial Navigation System Using Optical Flow. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2013</b> , 46, 251-256		1
25	3D surveillance coverage using maps extracted by a monocular SLAM algorithm <b>2011</b> ,		1
24	Solar-Powered Micro-air Vehicles and Challenges in Downscaling <b>2009</b> , 285-297		1
23	Exploiting the Information at the Loop Closure in SLAM. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , <b>2007</b> ,		1
22	Introduction of a full redundant architecture into a vehicle by integration of a virtual driver		1
21	Multi-robot human-interaction and visitor flow management		1
20	Unsupervised Detection of Artificial Objects in Outdoor Environments. <i>Springer Tracts in Advanced Robotics</i> , <b>2008</b> , 401-410	0.5	1
19	3D Position Tracking in Challenging Terrain <b>2006</b> , 529-540		1
18	Towards Adaptive Robotic Green Plants. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 422-423	0.9	1
17	A Bayesian Approach to Learning 3D Representations of Dynamic Environments. <i>Springer Tracts in Advanced Robotics</i> , <b>2014</b> , 461-475	0.5	1
16	Trajectory Tracking Nonlinear Model Predictive Control for an Overactuated MAV <b>2020</b> ,		1
15	Learning Dynamics for Improving Control of Overactuated Flying Systems. <i>IEEE Robotics and Automation Letters</i> , <b>2020</b> , 5, 5283-5290	4.2	1
14	Real-Time Detection and Tracking of Multiple Humans from High Bird-Eye Views in the Visual and Infrared Spectrum. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 545-556	0.9	1
13	Predicting Unobserved Space for Planning via Depth Map Augmentation <b>2019</b> ,		1
12	Flexible Trinocular: Non-rigid Multi-Camera-IMU Dense Reconstruction for UAV Navigation and Mapping <b>2019</b> ,		1
11	Mesh Manifold Based Riemannian Motion Planning for Omnidirectional Micro Aerial Vehicles. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 4790-4797	4.2	0
10	Unsupervised 3D Object Discovery and Categorization for Mobile Robots. <i>Springer Tracts in Advanced Robotics</i> , <b>2017</b> , 61-76	0.5	



- 9 Discussion on: Adaptive and Predictive Path Tracking Control for Off-road Mobile Robots  
*European Journal of Control*, **2007**, 13, 440-444 2.5
- 8 Information Relative Map Going Toward Constant Time SLAM **2008**, 133-144
- 7 Probabilistic Contextual Situation Analysis. *Springer Tracts in Advanced Robotics*, **2008**, 129-151 0.5
- 6 Region of Interest Generation in Dynamic Environments Using Local Entropy Fields **2008**, 89-98
- 5 Trajectory Generation and Control for a High-DOF Articulated Robot with Dynamic Constraints.  
*Lecture Notes in Computer Science*, **2010**, 382-391 0.9
- 4 Terrain Mapping and Control Optimization for a 6-Wheel Rover with Passive Suspension. *Springer Tracts in Advanced Robotics*, **2014**, 297-310 0.5
- 3 Data Materialities Art Gallery: Introduction and Gallery. *Leonardo*, **2016**, 49, 352-374 0.1
- 2 Power-based Safety Layer for Aerial Vehicles in Physical Interaction using Lyapunov Exponents.  
*IEEE Robotics and Automation Letters*, **2022**, 1-1 4.2
- 1 Linewise Non-Rigid Point Cloud Registration. *IEEE Robotics and Automation Letters*, **2022**, 1-1 4.2