Salah Sukkarieh

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7742807/publications.pdf

Version: 2024-02-01

157 papers	5,346 citations	147726 31 h-index	114418 63 g-index
163 all docs	163 docs citations	163 times ranked	4568 citing authors

#	Article	IF	Citations
1	Machine learning approaches for crop yield prediction and nitrogen status estimation in precision agriculture: A review. Computers and Electronics in Agriculture, 2018, 151, 61-69.	3.7	752
2	Visual-Inertial-Aided Navigation for High-Dynamic Motion in Built Environments Without Initial Conditions. IEEE Transactions on Robotics, 2012, 28, 61-76.	7.3	331
3	An Analytical Continuous-Curvature Path-Smoothing Algorithm. IEEE Transactions on Robotics, 2010, 26, 561-568.	7.3	230
4	Feature Learning Based Approach for Weed Classification Using High Resolution Aerial Images from a Digital Camera Mounted on a UAV. Remote Sensing, 2014, 6, 12037-12054.	1.8	134
5	Real-time implementation of airborne inertial-SLAM. Robotics and Autonomous Systems, 2007, 55, 62-71.	3.0	125
6	Observability analysis and active control for airborne SLAM. IEEE Transactions on Aerospace and Electronic Systems, 2008, 44, 261-280.	2.6	123
7	Mapping almond orchard canopy volume, flowers, fruit and yield using lidar and vision sensors. Computers and Electronics in Agriculture, 2016, 130, 83-96.	3.7	123
8	Cattle segmentation and contour extraction based on Mask R-CNN for precision livestock farming. Computers and Electronics in Agriculture, 2019, 165, 104958.	3.7	123
9	Visionâ€based Obstacle Detection and Navigation for an Agricultural Robot. Journal of Field Robotics, 2016, 33, 1107-1130.	3.2	98
10	A Gaussian process-based RRT planner for the exploration of an unknown and cluttered environment with a UAV. Advanced Robotics, 2013, 27, 431-443.	1.1	94
11	Building a Robust Implementation of Bearing-only Inertial SLAM for a UAV. Journal of Field Robotics, 2007, 24, 113-143.	3.2	89
12	An Efficient Path Planning and Control Algorithm for RUAVâ€™s in Unknown and Cluttered Environments. Journal of Intelligent and Robotic Systems: Theory and Applications, 2010, 57, 101-122.	2.0	82
13	Multi-UAV target search using decentralized gradient-based negotiation with expected observation. Information Sciences, 2014, 282, 92-110.	4.0	80
14	Airborne visionâ€based mapping and classification of large farmland environments. Journal of Field Robotics, 2010, 27, 632-655.	3.2	74
15	Inertial Aiding of Inverse Depth SLAM using a Monocular Camera. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	72
16	Multi-class predictive template for tree crown detection. ISPRS Journal of Photogrammetry and Remote Sensing, 2012, 68, 170-183.	4.9	71
17	Autonomous Exploration of a Wind Field with a Gliding Aircraft. Journal of Guidance, Control, and Dynamics, 2011, 34, 719-733.	1.6	69
18	Intelligent perception for cattle monitoring: A review for cattle identification, body condition score evaluation, and weight estimation. Computers and Electronics in Agriculture, 2021, 185, 106143.	3.7	69

#	Article	IF	Citations
19	3D smooth path planning for a UAV in cluttered natural environments. , 2008, , .		68
20	Orchard fruit segmentation using multi-spectral feature learning. , 2013, , .		60
21	Probabilistic Crowd GAN: Multimodal Pedestrian Trajectory Prediction Using a Graph Vehicle-Pedestrian Attention Network. IEEE Robotics and Automation Letters, 2020, 5, 5026-5033.	3.3	57
22	Actively articulated suspension for a wheel-on-leg rover operating on a Martian analog surface. , 2016, , .		54
23	Online Localization of Radio-Tagged Wildlife with an Autonomous Aerial Robot System. , 0, , .		53
24	A Rotary-wing Unmanned Air Vehicle for Aquatic Weed Surveillance and Management. Journal of Intelligent and Robotic Systems: Theory and Applications, 2010, 57, 467-484.	2.0	51
25	Data augmentation for deep learning based semantic segmentation and crop-weed classification in agricultural robotics. Computers and Electronics in Agriculture, 2021, 190, 106418.	3.7	51
26	Adaptive nonlinear model predictive path-following control for a fixed-wing unmanned aerial vehicle. International Journal of Control, Automation and Systems, 2013, 11, 65-74.	1.6	48
27	Individual Cattle Identification Using a Deep Learning Based Framework. IFAC-PapersOnLine, 2019, 52, 318-323.	0.5	47
28	Multi-UAV target search using explicit decentralized gradient-based negotiation. , 2011, , .		44
29	Using energy requirements to compare the suitability of alternative methods for broadcast and site-specific weed control. Weed Technology, 2019, 33, 633-650.	0.4	44
30	Segmentation of lettuce in coloured 3D point clouds for fresh weight estimation. Computers and Electronics in Agriculture, 2018, 154, 373-381.	3.7	43
31	A Feature Learning Based Approach for Automated Fruit Yield Estimation. Springer Tracts in Advanced Robotics, 2015, , 485-498.	0.3	43
32	A guidance and control strategy for dynamic soaring with a gliding UAV. , 2009, , .		42
33	Continuous curvature path-smoothing algorithm using cubic B zier spiral curves for non-holonomic robots. Advanced Robotics, 2013, 27, 247-258.	1.1	42
34	Real-time continuous curvature path planning of UAVS in cluttered environments. , 2008, , .		40
35	Lidarâ€Based Tree Recognition and Platform Localization in Orchards. Journal of Field Robotics, 2015, 32, 1056-1074.	3.2	40
36	Wind Energy Based Path Planning for a Small Gliding Unmanned Aerial Vehicle. , 2009, , .		39

#	Article	IF	Citations
37	Autonomous airborne wildlife tracking using radio signal strength. , 2010, , .		38
38	Airborne smoothing and mapping using vision and inertial sensors. , 2009, , .		37
39	A Pipeline for Trunk Detection in Trellis Structured Apple Orchards. Journal of Field Robotics, 2015, 32, 1075-1094.	3.2	35
40	Viewpoint Evaluation for Online 3-D Active Object Classification. IEEE Robotics and Automation Letters, 2016, 1, 73-81.	3.3	33
41	A highâ€resolution, multimodal data set for agricultural robotics: A Ladybird'sâ€eye view of Brassica. Journal of Field Robotics, 2020, 37, 73-96.	3.2	33
42	Architectures for Cooperative Airborne Simultaneous Localisation and Mapping. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 55, 267-297.	2.0	32
43	Path planning for autonomous soaring flight in dynamic wind fields. , 2011, , .		32
44	An internal model approach to estimation of systems with arbitrary unknown inputs. Automatica, 2019, 108, 108482.	3.0	32
45	Robotics for Sustainable Broad-Acre Agriculture. Springer Tracts in Advanced Robotics, 2015, , 439-453.	0.3	32
46	Design and evaluation of a modular robotic plum harvesting system utilizing soft components. Journal of Field Robotics, 2021, 38, 289-306.	3.2	31
47	Geometric Priors for Gaussian Process Implicit Surfaces. IEEE Robotics and Automation Letters, 2017, 2, 373-380.	3.3	30
48	Mapping and Tracking. IEEE Robotics and Automation Magazine, 2009, 16, 22-34.	2.2	29
49	Real time detection of inter-row ryegrass in wheat farms using deep learning. Biosystems Engineering, 2021, 204, 198-211.	1.9	29
50	Efficient integration of inertial observations into visual SLAM without initialization. , 2009, , .		27
51	Learned Stochastic Mobility Prediction for Planning with Control Uncertainty on Unstructured Terrain. Journal of Field Robotics, 2014, 31, 969-995.	3.2	27
52	Decentralised SLAM with Low-Bandwidth Communication for Teams of Vehicles. , 0, , 179-188.		27
53	Multi-modal active perception for information gathering in science missions. Autonomous Robots, 2019, 43, 1827-1853.	3.2	26
54	Using Lie group symmetries for fast corrective motion planning. International Journal of Robotics Research, 2012, 31, 151-166.	5.8	25

#	Article	IF	Citations
55	Online decentralized information gathering with spatialâ€“temporal constraints. Autonomous Robots, 2014, 37, 1-25.	3.2	25
56	System Development and Demonstration of a Cooperative UAV Team for Mapping and Tracking. International Journal of Robotics Research, 2010, 29, 1371-1399.	5.8	24
57	Learning to soar: Resource-constrained exploration in reinforcement learning. International Journal of Robotics Research, 2015, 34, 158-172.	5.8	24
58	Samplingâ€based hierarchical motion planning for a reconfigurable wheelâ€onâ€leg planetary analogue exploration rover. Journal of Field Robotics, 2020, 37, 786-811.	3.2	23
59	Intelligent Perception-Based Cattle Lameness Detection and Behaviour Recognition: A Review. Animals, 2021, 11, 3033.	1.0	23
60	Active Airborne Localisation and Exploration in Unknown Environments using Inertial SLAM. , 0, , .		22
61	Co-operative Localisation and Mapping for Multiple UAVs in Unknown Environments. , 2007, , .		22
62	Decentralized Coordinated Tracking with Mixed Discreteâ€“Continuous Decisions. Journal of Field Robotics, 2013, 30, 717-740.	3.2	22
63	Experimental validation of a drogue estimation algorithm for autonomous aerial refueling. , 2015, , .		22
64	Path Planning in Dynamic Environments using Generative RNNs and Monte Carlo Tree Search. , 2020, , .		21
65	Reactive Collision Avoidance for Unmanned Aerial Vehicles Using Doppler Radar. Springer Tracts in Advanced Robotics, 2008, , 245-254.	0.3	20
66	Simultaneous Exploration and Exploitation of a Wind Field for a Small Gliding UAV. , 2010, , .		20
67	Communication-aware information gathering with dynamic information flow. International Journal of Robotics Research, 2015, 34, 173-200.	5.8	20
68	Real-time path planning for long-term information gathering with an aerial glider. Autonomous Robots, 2016, 40, 1017-1039.	3.2	20
69	Suboptimal receding horizon estimation via noise blocking. Automatica, 2018, 98, 66-75.	3.0	20
70	Quantifying leaf-scale variations in water absorption in lettuce from hyperspectral imagery: a laboratory study with implications for measuring leaf water content in the context of precision agriculture. Precision Agriculture, 2019, 20, 767-787.	3.1	20
71	Real-time decentralized search with inter-agent collision avoidance. , 2012, , .		19
72	Provably-correct stochastic motion planning with safety constraints. , 2013, , .		19

#	Article	IF	Citations
73	Vision-aided Guidance and Navigation for Close Formation Flight. Journal of Field Robotics, 2016, 33, 661-686.	3.2	19
74	Online task planning and control for fuel-constrained aerial robots in wind fields. International Journal of Robotics Research, 2016, 35, 438-453.	5.8	19
75	System development and demonstration of a UAV control architecture for information gathering missions. Journal of Field Robotics, 2006, 23, 417-440.	3.2	18
76	Removing scale biases and ambiguity from 6DoF monocular SLAM using inertial. , 2008, , .		18
77	Learning UAV Stability and Control Derivatives Using Gaussian Processes. IEEE Transactions on Robotics, 2013, 29, 813-824.	7.3	18
78	Energy-constrained motion planning for information gathering with autonomous aerial soaring. , 2013, , .		18
79	BiLSTM-based Individual Cattle Identification for Automated Precision Livestock Farming. , 2020, , .		17
80	Filtering for systems subject to unknown inputs without a priori initial information. Automatica, 2020, 120, 109122.	3.0	17
81	A vision based relative navigation framework for formation flight. , 2014, , .		16
82	An approach to autonomous science by modeling geological knowledge in a Bayesian framework. , 2017, , .		16
83	The Demonstration of a Cooperative Control Architecture for UAV Teams. , 2008, , 501-510.		16
84	Deep Learning-Based Cow Tail Detection and Tracking for Precision Livestock Farming. IEEE/ASME Transactions on Mechatronics, 2023, 28, 1213-1221.	3.7	16
85	Metamorphic moving horizon estimation. Automatica, 2018, 97, 167-171.	3.0	15
86	Kalman filtering under unknown inputs and norm constraints. Automatica, 2021, 133, 109871.	3.0	15
87	Guidance and Navigation for UAV Airborne Docking. , 0, , .		15
88	Inertial Navigation Aided by Monocular Camera Observations of Unknown Features. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	14
89	Necessary and Sufficient Conditions for Observability of SLAM-Based TDOA Sensor Array Calibration and Source Localization. IEEE Transactions on Robotics, 2021, 37, 1451-1468.	7.3	14
90	Non-parametric UAV system identification with dependent Gaussian processes. , 2011, , .		13

#	Article	IF	Citations
91	Decentralised Ground Target Tracking with Heterogeneous Sensing Nodes on Multiple UAVs. Lecture Notes in Computer Science, 2003, , 545-565.	1.0	13
92	Probabilistic Temporal Logic for Motion Planning with Resource Threshold Constraints. , 0, , .		13
93	Automated aerial animal detection when spatial resolution conditions are varied. Computers and Electronics in Agriculture, 2022, 193, 106689.	3.7	13
94	Motion planning and stochastic control with experimental validation on a planetary rover. , 2012, , .		12
95	Active Information Acquisition under Arbitrary Unknown Disturbances. , 2021, , .		12
96	Traversability estimation for a planetary rover via experimental kernel learning in a Gaussian process framework. , 2013, , .		11
97	Nonmyopic planning for long-term information gathering with an aerial glider. , 2014, , .		11
98	Receding horizon estimation and control with structured noise blocking for mobile robot slip compensation. , 2019, , .		11
99	Energy Aware Mission Planning for WMRs on Uneven Terrains. IFAC-PapersOnLine, 2019, 52, 149-154.	0.5	11
100	Data Augmentation for Deep Learning based Cattle Segmentation in Precision Livestock Farming. , 2020, , .		11
101	Cost-Effective Mapping Using Unmanned Aerial Vehicles in Ecology Monitoring Applications. Springer Tracts in Advanced Robotics, 2014, , 509-523.	0.3	11
102	One-Shot Learning-Based Animal Video Segmentation. IEEE Transactions on Industrial Informatics, 2022, 18, 3799-3807.	7.2	10
103	BiGRU-Attention Based Cow Behavior Classification Using Video Data for Precision Livestock Farming. Transactions of the ASABE, 2021, 64, 1823-1833.	1.1	10
104	Resource and Response Aware Path Planning for Long-term Autonomy of Ground Robots in Agriculture. , 2022, 2, 1-33.		10
105	Multi-class classification of vegetation in natural environments using an Unmanned Aerial system. , 2011, , .		9
106	Improved Cross-Ratio Invariant-Based Intrinsic Calibration of A Hyperspectral Line-Scan Camera. Sensors, 2018, 18, 1885.	2.1	9
107	Improved noise covariance estimation in visual servoing using an autocovariance least-squares approach. Mechatronics, 2020, 68, 102381.	2.0	9
108	Camera Aided Inertial Navigation in Poor GPS Environments. , 2007, , .		8

#	Article	IF	Citations
109	Distributed Simulation and Middleware for Networked UAS. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 54, 331-357.	2.0	8
110	Nonparametric Traversability Estimation in Partially Occluded and Deformable Terrain. Journal of Field Robotics, 2016, 33, 1131-1158.	3.2	8
111	A Pipeline for Trunk Localisation Using LiDAR in Trellis Structured Orchards. Springer Tracts in Advanced Robotics, 2015, , 455-468.	0.3	8
112	LiDAR Based Tree and Platform Localisation in Almond Orchards. Springer Tracts in Advanced Robotics, 2015, , 469-483.	0.3	8
113	Implementation of a Decentralised Sensing Network aboard Multiple UAVs. Telecommunication Systems, 2004, 26, 253-284.	1.6	7
114	Decentralised information gathering with communication costs. , 2012, , .		7
115	Decentralised coordination of mobile robots for target tracking with learnt utility models. , 2013, , .		7
116	Adaptive Integral Backstepping Controller for an autonomous rotorcraft. , 2009, , .		6
117	Persistent monitoring with a team of autonomous gliders using static soaring. , 2014, , .		6
118	Motion Cost Characterisation of an Omnidirectional WMR on Uneven Terrains. IFAC-PapersOnLine, 2019, 52, 31-36.	0.5	6
119	A Multi-Core Fibre Photonic Lantern-Based Spectrograph for Raman Spectroscopy. IEEE Photonics Technology Letters, 2020, 32, 395-398.	1.3	6
120	Automated Individual Cattle Identification Using Video Data: A Unified Deep Learning Architecture Approach. Frontiers in Animal Science, 2021, 2, .	0.8	6
121	A near-to-far non-parametric learning approach for estimating traversability in deformable terrain. , 2013, , .		5
122	Gaussian processes for informative exploration in reinforcement learning. , 2013, , .		5
123	UAV parameter estimation with multi-output local and global Gaussian Process approximations. , 2013, , .		5
124	Modelling of Uniaxial EGaIn-Based Strain Sensors for Proprioceptive Sensing of Soft Robots. , 2019, , .		5
125	A Hierarchical Framework for Long-term and Robust Deployment of Field Ground Robots in Large-Scale Farming. , 2020, , .		5
126	Motion Planning for Reconfigurable Mobile Robots Using Hierarchical Fast Marching Trees. Springer Proceedings in Advanced Robotics, 2020, , 656-671.	0.9	5

#	Article	IF	Citations
127	The noise covariances of linear Gaussian systems with unknown inputs are not uniquely identifiable using autocovariance least-squares. Systems and Control Letters, 2022, 162, 105172.	1.3	5
128	A comparison of feature and pose-based mapping using vision, inertial and GPS on a UAV. , 2011, , .		4
129	Decentralised control of robot teams with discrete and continuous decision variables. , 2011, , .		4
130	Real-time rendezvous point selection for a nonholonomic vehicle. , 2013, , .		4
131	Communication-efficient motion coordination and data fusion in information gathering teams. , 2016, , .		4
132	One-Shot Learning with Pseudo-Labeling for Cattle Video Segmentation in Smart Livestock Farming. Animals, 2022, 12, 558.	1.0	4
133	Tracking Multiple Features including Cross-Feature Correlations, with Observation Parameter Uncertainties. , 2006, , .		3
134	A protocol for decentralized multi-vehicle mapping with limited communication connectivity. , 2009, , .		3
135	Integrated Planning and Control of Rotary-wing Unmanned Aerial Vehicle Navigation. Journal of Aerospace Computing, Information, and Communication, 2012, 9, 81-91.	0.8	3
136	A new utility function for smooth transition between exploration and exploitation of a wind energy field. , 2012, , .		3
137	Using High-Frequency Data for Predicting Fuel Use of Jet Transport Aircraft. Journal of Aircraft, 2017, 54, 2115-2125.	1.7	3
138	Improving Monocular Depth Prediction in Ambiguous Scenes Using a Single Range Measurement. IFAC-PapersOnLine, 2019, 52, 355-360.	0.5	3
139	Improved Noise Covariance Estimation in Visual Servoing Using an Autocovariance Least-squares Approach. IFAC-PapersOnLine, 2019, 52, 37-42.	0.5	3
140	The Real-Time Development and Deployment of a Cooperative Multi-UAV System. Lecture Notes in Computer Science, 2003, , 576-583.	1.0	2
141	Incorporating geometric information into Gaussian Process terrain models from monocular images. , 2012, , .		2
142	Online Task Planning and Control for Aerial Robots with Fuel Constraints in Winds. Springer Tracts in Advanced Robotics, 2015, , 711-727.	0.3	2
143	The orienteering Problem with Replenishment. , 2020, , .		2
144	Using energy requirements to compare the suitability of alternative methods for broadcast and site-specific weed control â€“ CORRIGENDUM. Weed Technology, 2020, 34, 153-154.	0.4	2

#	Article	IF	Citations
145	Experimental Evaluation of a Hierarchical Operating Framework for Ground Robots in Agriculture. Springer Proceedings in Advanced Robotics, 2021, , 151-160.	0.9	2
146	A comparison of feature and pose-based mapping using vision, inertial and GPS on a UAV. , 2011, , .		2
147	2015 IEEE RAS Summer School on Agricultural Robotics [Education]. IEEE Robotics and Automation Magazine, 2015, 22, 96-98.	2.2	1
148	Experimental Validation of Structured Receding Horizon Estimation and Control for Mobile Ground Robot Slip Compensation. Springer Proceedings in Advanced Robotics, 2021, , 411-426.	0.9	1
149	View Planning of a Multi-rotor Unmanned Air Vehicle for Tree Modeling Using Silhouette-Based Shape Estimation. Studies in Computational Intelligence, 2013, , 193-207.	0.7	1
150	Distributed Thermal Identification and Exploitation for Multiple Soaring UAVs. , 2014, , 359-378.		1
151	Special Issue on the Fifth International Conference on Field and Service Robotics, 2005. International Journal of Robotics Research, 2007, 26, 139-140.	5.8	0
152	Learning utility models for decentralised coordinated target tracking. , 2012, , .		0
153	“ShadowCut” - an unsupervised object segmentation algorithm for aerial robotic surveillance applications. , 2012, , .		0
154	Autonomous Remote Sensing of Invasive Species from Robotic Aircraft. , 2015, , 2813-2834.		0
155	Informative soaring with drifting thermals. , 2016, , .		0
156	Demonstrating the Benefits of Cooperation for a UAV Team Performing Vision Based Feature Localisation. Springer Tracts in Advanced Robotics, 2009, , 105-115.	0.3	0
157	View Planning of a Multi-rotor Unmanned Air Vehicle for Tree Modeling Using Silhouette-Based Shape Estimation. Advances in Intelligent Systems and Computing, 2013, , 519-531.	0.5	0