Salah Sukkarieh

List of Publications by Year
in descending order

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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	Deep Learning-Based Cow Tail Detection and Tracking for Precision Livestock Farming. IEEE/ASME Transactions on Mechatronics, 2023, 28, 1213-1221.	3.7	16
2	One-Shot Learning-Based Animal Video Segmentation. IEEE Transactions on Industrial Informatics, 2022, 18, 3799-3807.	7.2	10
3	Automated aerial animal detection when spatial resolution conditions are varied. Computers and Electronics in Agriculture, 2022, 193, 106689.	3.7	13
4	One-Shot Learning with Pseudo-Labeling for Cattle Video Segmentation in Smart Livestock Farming. Animals, 2022, 12, 558.	1.0	4
5	Resource and Response Aware Path Planning for Long-term Autonomy of Ground Robots in Agriculture. , 2022, 2, 1-33.		10
6	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
7	Design and evaluation of a modular robotic plum harvesting system utilizing soft components. Journal of Field Robotics, 2021, 38, 289-306.	3.2	31
8	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
9	Experimental Evaluation of a Hierarchical Operating Framework for Ground Robots in Agriculture. Springer Proceedings in Advanced Robotics, 2021, , 151-160.	0.9	2
10	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
11	Real time detection of inter-row ryegrass in wheat farms using deep learning. Biosystems Engineering, 2021, 204, 198-211.	1.9	29
12	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
13	Kalman filtering under unknown inputs and norm constraints. Automatica, 2021, 133, 109871.	3.0	15
14	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
15	Active Information Acquisition under Arbitrary Unknown Disturbances. , 2021, , .		12
16	Intelligent Perception-Based Cattle Lameness Detection and Behaviour Recognition: A Review. Animals, 2021, 11, 3033.	1.0	23
17	BiGRU-Attention Based Cow Behavior Classification Using Video Data for Precision Livestock Farming. Transactions of the ASABE, 2021, 64, 1823-1833.	1.1	10
18	Automated Individual Cattle Identification Using Video Data: A Unified Deep Learning Architecture Approach. Frontiers in Animal Science, 2021, 2, .	0.8	6

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19	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
20	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
21	Path Planning in Dynamic Environments using Generative RNNs and Monte Carlo Tree Search. , 2020, , .		21
22	BiLSTM-based Individual Cattle Identification for Automated Precision Livestock Farming. , 2020, , .		17
23	A Hierarchical Framework for Long-term and Robust Deployment of Field Ground Robots in Large-Scale Farming. , 2020, , .		5
24	The orienteering Problem with Replenishment. , 2020, , .		2
25	Data Augmentation for Deep Learning based Cattle Segmentation in Precision Livestock Farming. , 2020, , .		11
26	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
27	Improved noise covariance estimation in visual servoing using an autocovariance least-squares approach. Mechatronics, 2020, 68, 102381.	2.0	9
28	A Multi-Core Fibre Photonic Lantern-Based Spectrograph for Raman Spectroscopy. IEEE Photonics Technology Letters, 2020, 32, 395-398.	1.3	6
29	Filtering for systems subject to unknown inputs without a priori initial information. Automatica, 2020, 120, 109122.	3.0	17
30	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
31	Motion Planning for Reconfigurable Mobile Robots Using Hierarchical Fast Marching Trees. Springer Proceedings in Advanced Robotics, 2020, , 656-671.	0.9	5
32	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
33	An internal model approach to estimation of systems with arbitrary unknown inputs. Automatica, 2019, 108, 108482.	3.0	32
34	Receding horizon estimation and control with structured noise blocking for mobile robot slip compensation. , 2019, , .		11
35	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
36	Multi-modal active perception for information gathering in science missions. Autonomous Robots, 2019, 43, 1827-1853.	3.2	26

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37	Modelling of Uniaxial EGaIn-Based Strain Sensors for Proprioceptive Sensing of Soft Robots. , 2019, , .		5
38	Energy Aware Mission Planning for WMRs on Uneven Terrains. IFAC-PapersOnLine, 2019, 52, 149-154.	0.5	11
39	Individual Cattle Identification Using a Deep Learning Based Framework. IFAC-PapersOnLine, 2019, 52, 318-323.	0.5	47
40	Improving Monocular Depth Prediction in Ambiguous Scenes Using a Single Range Measurement. IFAC-PapersOnLine, 2019, 52, 355-360.	0.5	3
41	Improved Noise Covariance Estimation in Visual Servoing Using an Autocovariance Least-squares Approach. IFAC-PapersOnLine, 2019, 52, 37-42.	0.5	3
42	Motion Cost Characterisation of an Omnidirectional WMR on Uneven Terrains. IFAC-PapersOnLine, 2019, 52, 31-36.	0.5	6
43	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
44	Suboptimal receding horizon estimation via noise blocking. Automatica, 2018, 98, 66-75.	3.0	20
45	Segmentation of lettuce in coloured 3D point clouds for fresh weight estimation. Computers and Electronics in Agriculture, 2018, 154, 373-381.	3.7	43
46	Improved Cross-Ratio Invariant-Based Intrinsic Calibration of A Hyperspectral Line-Scan Camera. Sensors, 2018, 18, 1885.	2.1	9
47	Metamorphic moving horizon estimation. Automatica, 2018, 97, 167-171.	3.0	15
48	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
49	Geometric Priors for Gaussian Process Implicit Surfaces. IEEE Robotics and Automation Letters, 2017, 2, 373-380.	3.3	30
50	Using High-Frequency Data for Predicting Fuel Use of Jet Transport Aircraft. Journal of Aircraft, 2017, 54, 2115-2125.	1.7	3
51	An approach to autonomous science by modeling geological knowledge in a Bayesian framework. , 2017, , .		16
52	Visionâ€based Obstacle Detection and Navigation for an Agricultural Robot. Journal of Field Robotics, 2016, 33, 1107-1130.	3.2	98
53	Actively articulated suspension for a wheel-on-leg rover operating on a Martian analog surface. , 2016, , .		54
54	Nonparametric Traversability Estimation in Partially Occluded and Deformable Terrain. Journal of Field Robotics, 2016, 33, 1131-1158.	3.2	8

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55	Informative soaring with drifting thermals. , 2016, , .		0
56	Communication-efficient motion coordination and data fusion in information gathering teams. , 2016, , .		4
57	Real-time path planning for long-term information gathering with an aerial glider. Autonomous Robots, 2016, 40, 1017-1039.	3.2	20
58	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
59	Vision-aided Guidance and Navigation for Close Formation Flight. Journal of Field Robotics, 2016, 33, 661-686.	3.2	19
60	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
61	Viewpoint Evaluation for Online 3-D Active Object Classification. IEEE Robotics and Automation Letters, 2016, 1, 73-81.	3.3	33
62	A Pipeline for Trunk Detection in Trellis Structured Apple Orchards. Journal of Field Robotics, 2015, 32, 1075-1094.	3.2	35
63	Lidarâ€Based Tree Recognition and Platform Localization in Orchards. Journal of Field Robotics, 2015, 32, 1056-1074.	3.2	40
64	Communication-aware information gathering with dynamic information flow. International Journal of Robotics Research, 2015, 34, 173-200.	5.8	20
65	Experimental validation of a drogue estimation algorithm for autonomous aerial refueling. , 2015, , .		22
66	2015 IEEE RAS Summer School on Agricultural Robotics [Education]. IEEE Robotics and Automation Magazine, 2015, 22, 96-98.	2.2	1
67	Learning to soar: Resource-constrained exploration in reinforcement learning. International Journal of Robotics Research, 2015, 34, 158-172.	5.8	24
68	Online Task Planning and Control for Aerial Robots with Fuel Constraints in Winds. Springer Tracts in Advanced Robotics, 2015, , 711-727.	0.3	2
69	Autonomous Remote Sensing of Invasive Species from Robotic Aircraft. , 2015, , 2813-2834.		0
70	Robotics for Sustainable Broad-Acre Agriculture. Springer Tracts in Advanced Robotics, 2015, , 439-453.	0.3	32
71	A Pipeline for Trunk Localisation Using LiDAR in Trellis Structured Orchards. Springer Tracts in Advanced Robotics, 2015, , 455-468.	0.3	8
72	LiDAR Based Tree and Platform Localisation in Almond Orchards. Springer Tracts in Advanced Robotics, 2015, , 469-483.	0.3	8

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73	A Feature Learning Based Approach for Automated Fruit Yield Estimation. Springer Tracts in Advanced Robotics, 2015, , 485-498.	0.3	43
74	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
75	Nonmyopic planning for long-term information gathering with an aerial glider. , 2014, , .		11
76	Multi-UAV target search using decentralized gradient-based negotiation with expected observation. Information Sciences, 2014, 282, 92-110.	4.0	80
77	Persistent monitoring with a team of autonomous gliders using static soaring. , 2014, , .		6
78	A vision based relative navigation framework for formation flight. , 2014, , .		16
79	Online decentralized information gathering with spatialâ€“temporal constraints. Autonomous Robots, 2014, 37, 1-25.	3.2	25
80	Learned Stochastic Mobility Prediction for Planning with Control Uncertainty on Unstructured Terrain. Journal of Field Robotics, 2014, 31, 969-995.	3.2	27
81	Cost-Effective Mapping Using Unmanned Aerial Vehicles in Ecology Monitoring Applications. Springer Tracts in Advanced Robotics, 2014, , 509-523.	0.3	11
82	Distributed Thermal Identification and Exploitation for Multiple Soaring UAVs. , 2014, , 359-378.		1
83	Learning UAV Stability and Control Derivatives Using Gaussian Processes. IEEE Transactions on Robotics, 2013, 29, 813-824.	7.3	18
84	Provably-correct stochastic motion planning with safety constraints. , 2013, , .		19
85	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
86	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
87	A near-to-far non-parametric learning approach for estimating traversability in deformable terrain. , 2013, , .		5
88	Decentralized Coordinated Tracking with Mixed Discreteâ€“Continuous Decisions. Journal of Field Robotics, 2013, 30, 717-740.	3.2	22
89	Real-time rendezvous point selection for a nonholonomic vehicle. , 2013, , .		4
90	Energy-constrained motion planning for information gathering with autonomous aerial soaring. , 2013, , .		18

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91	Gaussian processes for informative exploration in reinforcement learning. , 2013, , .		5
92	Decentralised coordination of mobile robots for target tracking with learnt utility models. , 2013, , .		7
93	UAV parameter estimation with multi-output local and global Gaussian Process approximations. , 2013, , .		5
94	Traversability estimation for a planetary rover via experimental kernel learning in a Gaussian process framework. , 2013, , .		11
95	Continuous curvature path-smoothing algorithm using cubic B zier spiral curves for non-holonomic robots. Advanced Robotics, 2013, 27, 247-258.	1.1	42
96	Orchard fruit segmentation using multi-spectral feature learning. , 2013, , .		60
97	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
98	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
99	Motion planning and stochastic control with experimental validation on a planetary rover. , 2012, , .		12
100	Using Lie group symmetries for fast corrective motion planning. International Journal of Robotics Research, 2012, 31, 151-166.	5.8	25
101	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
102	Incorporating geometric information into Gaussian Process terrain models from monocular images. , 2012, , .		2
103	Learning utility models for decentralised coordinated target tracking. , 2012, , .		0
104	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
105	A new utility function for smooth transition between exploration and exploitation of a wind energy field. , 2012, , .		3
106	Decentralised information gathering with communication costs. , 2012, , .		7
107	“ShadowCut” - an unsupervised object segmentation algorithm for aerial robotic surveillance applications. , 2012, , .		0
108	Real-time decentralized search with inter-agent collision avoidance. , 2012, , .		19

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109	Multi-class predictive template for tree crown detection. ISPRS Journal of Photogrammetry and Remote Sensing, 2012, 68, 170-183.	4.9	71
110	Multi-UAV target search using explicit decentralized gradient-based negotiation. , 2011, , .		44
111	Path planning for autonomous soaring flight in dynamic wind fields. , 2011, , .		32
112	A comparison of feature and pose-based mapping using vision, inertial and GPS on a UAV. , 2011, , .		4
113	Multi-class classification of vegetation in natural environments using an Unmanned Aerial system. , 2011, , .		9
114	Decentralised control of robot teams with discrete and continuous decision variables. , 2011, , .		4
115	Non-parametric UAV system identification with dependent Gaussian processes. , 2011, , .		13
116	Autonomous Exploration of a Wind Field with a Gliding Aircraft. Journal of Guidance, Control, and Dynamics, 2011, 34, 719-733.	1.6	69
117	A comparison of feature and pose-based mapping using vision, inertial and GPS on a UAV. , 2011, , .		2
118	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
119	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
120	Airborne visionâ€based mapping and classification of large farmland environments. Journal of Field Robotics, 2010, 27, 632-655.	3.2	74
121	Autonomous airborne wildlife tracking using radio signal strength. , 2010, , .		38
122	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
123	Simultaneous Exploration and Exploitation of a Wind Field for a Small Gliding UAV. , 2010, , .		20
124	An Analytical Continuous-Curvature Path-Smoothing Algorithm. IEEE Transactions on Robotics, 2010, 26, 561-568.	7.3	230
125	Mapping and Tracking. IEEE Robotics and Automation Magazine, 2009, 16, 22-34.	2.2	29
126	Distributed Simulation and Middleware for Networked UAS. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 54, 331-357.	2.0	8

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127	Architectures for Cooperative Airborne Simultaneous Localisation and Mapping. Journal of Intelligent and Robotic Systems: Theory and Applications, 2009, 55, 267-297.	2.0	32
128	Wind Energy Based Path Planning for a Small Gliding Unmanned Aerial Vehicle. , 2009, , .		39
129	Airborne smoothing and mapping using vision and inertial sensors. , 2009, , .		37
130	A guidance and control strategy for dynamic soaring with a gliding UAV. , 2009, , .		42
131	Adaptive Integral Backstepping Controller for an autonomous rotorcraft. , 2009, , .		6
132	A protocol for decentralized multi-vehicle mapping with limited communication connectivity. , 2009, , .		3
133	Efficient integration of inertial observations into visual SLAM without initialization. , 2009, , .		27
134	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
135	Observability analysis and active control for airborne SLAM. IEEE Transactions on Aerospace and Electronic Systems, 2008, 44, 261-280.	2.6	123
136	Real-time continuous curvature path planning of UAVS in cluttered environments. , 2008, , .		40
137	3D smooth path planning for a UAV in cluttered natural environments. , 2008, , .		68
138	Reactive Collision Avoidance for Unmanned Aerial Vehicles Using Doppler Radar. Springer Tracts in Advanced Robotics, 2008, , 245-254.	0.3	20
139	Removing scale biases and ambiguity from 6DoF monocular SLAM using inertial. , 2008, , .		18
140	The Demonstration of a Cooperative Control Architecture for UAV Teams. , 2008, , 501-510.		16
141	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
142	Inertial Navigation Aided by Monocular Camera Observations of Unknown Features. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	14
143	Co-operative Localisation and Mapping for Multiple UAVs in Unknown Environments. , 2007, , .		22
144	Camera Aided Inertial Navigation in Poor GPS Environments. , 2007, , .		8

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145	Inertial Aiding of Inverse Depth SLAM using a Monocular Camera. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	72
146	Real-time implementation of airborne inertial-SLAM. Robotics and Autonomous Systems, 2007, 55, 62-71.	3.0	125
147	Building a Robust Implementation of Bearing-only Inertial SLAM for a UAV. Journal of Field Robotics, 2007, 24, 113-143.	3.2	89
148	Tracking Multiple Features including Cross-Feature Correlations, with Observation Parameter Uncertainties. , 2006, , .		3
149	System development and demonstration of a UAV control architecture for information gathering missions. Journal of Field Robotics, 2006, 23, 417-440.	3.2	18
150	Implementation of a Decentralised Sensing Network aboard Multiple UAVs. Telecommunication Systems, 2004, 26, 253-284.	1.6	7
151	The Real-Time Development and Deployment of a Cooperative Multi-UAV System. Lecture Notes in Computer Science, 2003, , 576-583.	1.0	2
152	Decentralised Ground Target Tracking with Heterogeneous Sensing Nodes on Multiple UAVs. Lecture Notes in Computer Science, 2003, , 545-565.	1.0	13
153	Active Airborne Localisation and Exploration in Unknown Environments using Inertial SLAM. , 0, , .		22
154	Decentralised SLAM with Low-Bandwidth Communication for Teams of Vehicles. , 0, , 179-188.		27
155	Probabilistic Temporal Logic for Motion Planning with Resource Threshold Constraints. , 0, , .		13
156	Guidance and Navigation for UAV Airborne Docking. , 0, , .		15
157	Online Localization of Radio-Tagged Wildlife with an Autonomous Aerial Robot System. , 0, , .		53