

Paul Newman

List of Publications by Year in descending order

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Version: 2024-02-01

122
papers

7,796
citations

361413

20
h-index

395702

33
g-index

123
all docs

123
docs citations

123
times ranked

3819
citing authors

#	ARTICLE	IF	CITATIONS
1	FAB-MAP: Probabilistic Localization and Mapping in the Space of Appearance. International Journal of Robotics Research, 2008, 27, 647-665.	8.5	1,166
2	1 year, 1000 km: The Oxford RobotCar dataset. International Journal of Robotics Research, 2017, 36, 3-15.	8.5	878
3	Visual Place Recognition: A Survey. IEEE Transactions on Robotics, 2016, 32, 1-19.	10.3	729
4	Appearance-only SLAM at large scale with FAB-MAP 2.0. International Journal of Robotics Research, 2011, 30, 1100-1123.	8.5	490
5	The New College Vision and Laser Data Set. International Journal of Robotics Research, 2009, 28, 595-599.	8.5	251
6	A comparison of loop closing techniques in monocular SLAM. Robotics and Autonomous Systems, 2009, 57, 1188-1197.	5.1	222
7	The Oxford Radar RobotCar Dataset: A Radar Extension to the Oxford RobotCar Dataset. , 2020, , .		188
8	Experience-based navigation for long-term localisation. International Journal of Robotics Research, 2013, 32, 1645-1661.	8.5	175
9	Detecting Loop Closure with Scene Sequences. International Journal of Computer Vision, 2007, 74, 261-286.	15.6	171
10	RSLAM: A System for Large-Scale Mapping in Constant-Time Using Stereo. International Journal of Computer Vision, 2011, 94, 198-214.	15.6	159
11	Vast-scale Outdoor Navigation Using Adaptive Relative Bundle Adjustment. International Journal of Robotics Research, 2010, 29, 958-980.	8.5	138
12	Precise Ego-Motion Estimation with Millimeter-Wave Radar Under Diverse and Challenging Conditions. , 2018, , .		115
13	Probabilistic Appearance Based Navigation and Loop Closing. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	114
14	Navigating, Recognizing and Describing Urban Spaces With Vision and Lasers. International Journal of Robotics Research, 2009, 28, 1406-1433.	8.5	108
15	Distant Vehicle Detection Using Radar and Vision. , 2019, , .		107
16	Principles of robotics: regulating robots in the real world. Connection Science, 2017, 29, 124-129.	3.0	106
17	FAB-MAP 3D: Topological mapping with spatial and visual appearance. , 2010, , .		100
18	Shady dealings: Robust, long-term visual localisation using illumination invariance. , 2014, , .		90

#	ARTICLE	IF	CITATIONS
19	Practice makes perfect? Managing and leveraging visual experiences for lifelong navigation. , 2012, , .		88
20	Work smart, not hard: Recalling relevant experiences for vast-scale but time-constrained localisation. , 2015, , .		84
21	Loop closure detection in SLAM by combining visual and spatial appearance. Robotics and Autonomous Systems, 2006, 54, 740-749.	5.1	73
22	Adversarial Training for Adverse Conditions: Robust Metric Localisation Using Appearance Transfer. , 2018, , .		70
23	Radar-only ego-motion estimation in difficult settings via graph matching. , 2019, , .		70
24	Real-time probabilistic fusion of sparse 3D LIDAR and dense stereo. , 2016, , .		64
25	Dealing with shadows: Capturing intrinsic scene appearance for image-based outdoor localisation. , 2013, , .		63
26	Accelerated appearance-only SLAM. , 2008, , .		59
27	Lost in translation (and rotation): Rapid extrinsic calibration for 2D and 3D LIDARs. , 2012, , .		57
28	Made to measure: Bespoke landmarks for 24-hour, all-weather localisation with a camera. , 2016, , .		57
29	I Can See Clearly Now: Image Restoration via De-Raining. , 2019, , .		54
30	A generative framework for fast urban labeling using spatial andÂtemporal context. Autonomous Robots, 2009, 26, 153-170.	4.8	51
31	Closing loops without places. , 2010, , .		48
32	Fast Radar Motion Estimation with a Learnt Focus of Attention using Weak Supervision. , 2019, , .		44
33	Leveraging experience for large-scale LIDAR localisation in changing cities. , 2015, , .		43
34	Road vehicle localization with 2D push-broom LIDAR and 3D priors. , 2012, , .		42
35	LAPS - localisation using appearance of prior structure: 6-DoF monocular camera localisation using prior pointclouds. , 2012, , .		42
36	Cross-calibration of push-broom 2D LIDARs and cameras in natural scenes. , 2013, , .		42

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37	An image-to-map loop closing method for monocular SLAM. , 2008, , .		41
38	Multimotion Visual Odometry (MVO): Simultaneous Estimation of Camera and Third-Party Motions. , 2018, , .		37
39	What could move? Finding cars, pedestrians and bicyclists in 3D laser data. , 2012, , .		36
40	NID-SLAM: Robust Monocular SLAM Using Normalised Information Distance. , 2017, , .		33
41	TICSync: Knowing when things happened. , 2011, , .		32
42	Direct Visual Localisation and Calibration for Road Vehicles in Changing City Environments. , 2015, , .		32
43	FARLAP: Fast robust localisation using appearance priors. , 2015, , .		31
44	What Could Go Wrong? Introspective Radar Odometry in Challenging Environments. , 2019, , .		30
45	RSS-Net: Weakly-Supervised Multi-Class Semantic Segmentation with FMCW Radar. , 2020, , .		30
46	Reading the Road: Road Marking Classification and Interpretation. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 2072-2081.	8.0	29
47	High quality 3D laser ranging under general vehicle motion. , 2008, , .		28
48	Accelerating FAB-MAP With Concentration Inequalities. IEEE Transactions on Robotics, 2010, 26, 1042-1050.	10.3	28
49	Learning place-dependant features for long-term vision-based localisation. Autonomous Robots, 2015, 39, 363-387.	4.8	27
50	Kidnapped Radar: Topological Radar Localisation using Rotationally-Invariant Metric Learning. , 2020, , .		27
51	Using text-spotting to query the world. , 2010, , .		26
52	Risky Planning on Probabilistic Costmaps for Path Planning in Outdoor Environments. IEEE Transactions on Robotics, 2013, 29, 445-457.	10.3	25
53	Mark Yourself: Road Marking Segmentation via Weakly-Supervised Annotations from Multimodal Data. , 2018, , .		24
54	The Right (Angled) Perspective: Improving the Understanding of Road Scenes Using Boosted Inverse Perspective Mapping. , 2019, , .		23

#	ARTICLE	IF	CITATIONS
55	LAPS-II: 6-DoF day and night visual localisation with prior 3D structure for autonomous road vehicles. , 2014, , .		22
56	Reading between the Lanes: Road Layout Reconstruction from Partially Segmented Scenes. , 2018, , .		22
57	From dusk till dawn: Localisation at night using artificial light sources. , 2015, , .		21
58	Surface Edge Explorer (see): Planning Next Best Views Directly from 3D Observations. , 2018, , .		21
59	Look Around You: Sequence-based Radar Place Recognition with Learned Rotational Invariance. , 2020, , .		21
60	Adaptive compression for 3D laser data. International Journal of Robotics Research, 2011, 30, 914-935.	8.5	20
61	Resource-Performance Tradeoff Analysis for Mobile Robots. IEEE Robotics and Automation Letters, 2018, 3, 1840-1847.	5.1	20
62	Geometric Multi-model Fitting with a Convex Relaxation Algorithm. , 2018, , .		20
63	Training Object Detectors With Noisy Data. , 2019, , .		20
64	How was your day? Online visual workspace summaries using incremental clustering in topic space. , 2012, , .		19
65	Laser-only road-vehicle localization with dual 2D push-broom LIDARS and 3D priors. , 2012, , .		18
66	Generation and exploitation of local orthographic imagery for road vehicle localisation. , 2012, , .		18
67	kRadar++: Coarse-to-Fine FMCW Scanning Radar Localisation. Sensors, 2020, 20, 6002.	3.8	17
68	Listening for Sirens: Locating and Classifying Acoustic Alarms in City Scenes. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 17087-17096.	8.0	17
69	Visual precis generation using coresets. , 2014, , .		16
70	Fast Probabilistic Labeling of City Maps. , 0, , .		16
71	Describing Composite Urban Workspaces. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	14
72	Semantic categorization of outdoor scenes with uncertainty estimates using multi-class gaussian process classification. , 2012, , .		14

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73	Checkout my map: Version control for fleetwide visual localisation. , 2016, , .		14
74	Planes, trains and automobiles — autonomy for the modern robot. , 2010, , .		13
75	Risky planning: Path planning over costmaps with a probabilistically bounded speed-accuracy tradeoff. , 2011, , .		13
76	Distraction suppression for vision-based pose estimation at city scales. , 2013, , .		13
77	Online Inference and Detection of Curbs in Partially Occluded Scenes with Sparse LIDAR. , 2019, , .		13
78	Self-supervised learning for using overhead imagery as maps in outdoor range sensor localization. International Journal of Robotics Research, 2021, 40, 1488-1509.	8.5	13
79	Planning most-likely paths from overhead imagery. , 2010, , .		12
80	Know your limits: Embedding localiser performance models in teach and repeat maps. , 2015, , .		12
81	A framework for infrastructure-free warehouse navigation. , 2015, , .		12
82	Inferring Road Boundaries Through and Despite Traffic. , 2018, , .		12
83	Too much TV is bad: Dense reconstruction from sparse laser with non-convex regularisation. , 2015, , .		11
84	Imminent Collision Mitigation with Reinforcement Learning and Vision. , 2018, , .		11
85	Fast-MbyM: Leveraging Translational Invariance of the Fourier Transform for Efficient and Accurate Radar Odometry. , 2022, , .		11
86	Dense mono reconstruction: Living with the pain of the plain plane. , 2015, , .		10
87	Donâ€™t Worry About the Weather: Unsupervised Condition-Dependent Domain Adaptation. , 2019, , .		10
88	Self help: Seeking out perplexing images for ever improving navigation. , 2011, , .		8
89	Can priors be trusted? Learning to anticipate roadworks. , 2012, , .		8
90	Contrastive Learning for Unsupervised Radar Place Recognition. , 2021, , .		8

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91	Semantic Classification of Road Markings from Geometric Primitives. , 2018, , .		7
92	On the Road: Route Proposal from Radar Self-Supervised by Fuzzy LiDAR Traversability. AI, 2020, 1, 558-585.	3.8	7
93	Multi-weather city: Adverse weather stacking for autonomous driving. , 2021, , .		7
94	Non-parametric learning for natural plan generation. , 2010, , .		6
95	Radar as a Teacher: Weakly Supervised Vehicle Detection using Radar Labels. , 2020, , .		6
96	Keep off the Grass: Permissible Driving Routes from Radar with Weak Audio Supervision. , 2020, , .		6
97	Self-help: Seeking out perplexing images for ever improving topological mapping. International Journal of Robotics Research, 2013, 32, 1742-1766.	8.5	5
98	A variational approach to online road and path segmentation with monocular vision. , 2015, , .		5
99	The path less taken: A fast variational approach for scene segmentation used for closed loop control. , 2016, , .		5
100	LiDAR Lateral Localisation Despite Challenging Occlusion from Traffic. , 2020, , .		5
101	Senseâ€œAssessâ€œeXplain (SAX): Building Trust in Autonomous Vehicles in Challenging Real-World Driving Scenarios. , 2020, , .		5
102	What Goes Around: Leveraging a Constant-Curvature Motion Constraint in Radar Odometry. IEEE Robotics and Automation Letters, 2022, 7, 7865-7872.	5.1	5
103	Discovering and mapping complete surfaces with stereo. , 2010, , .		4
104	What lies behind: Recovering hidden shape in dense mapping. , 2016, , .		4
105	Building, Curating, and Querying Large-Scale Data Repositories for Field Robotics Applications. Springer Tracts in Advanced Robotics, 2016, , 517-531.	0.4	4
106	Meshed Up: Learnt Error Correction in 3D Reconstructions. , 2018, , .		3
107	Choosing landmarks for risky planning. , 2011, , .		2
108	Taking the Long View: A Report on Two Recent Workshops on Long-Term Autonomy [From the Field]. IEEE Robotics and Automation Magazine, 2012, 19, 109-111.	2.0	2

#	ARTICLE	IF	CITATIONS
109	Opportunistic Radio Assisted Navigation for Autonomous Ground Vehicles. , 2015, , .		2
110	Dense and Swift Mapping with Monocular Vision. Springer Tracts in Advanced Robotics, 2016, , 157-172.	0.4	2
111	Generating All the Roads to Rome: Road Layout Randomization for Improved Road Marking Segmentation. , 2019, , .		2
112	Depth-SIMS: Semi-Parametric Image and Depth Synthesis. , 2022, , .		2
113	Fast Global Labelling for Depth-Map Improvement Via Architectural Priors. , 2018, , .		1
114	Large-scale outdoor scene reconstruction and correction with vision. International Journal of Robotics Research, 2020, , 027836492093705.	8.5	1
115	Choosing landmarks for risky planning. , 2011, , .		0
116	Special issue on Robotics: Science and Systems. Autonomous Robots, 2013, 35, 239-239.	4.8	0
117	A unified representation for application of architectural constraints in large-scale mapping. , 2016, , .		0
118	The Hulk: Design and Development of a Weather-Proof Vehicle for Long-Term Autonomy in Outdoor Environments. Springer Proceedings in Advanced Robotics, 2021, , 101-114.	1.3	0
119	Learning to Correct Reconstructions from Multiple Views. , 2021, , .		0
120	Look Here: Learning Geometrically Consistent Refinement of Inverse-Depth Images for 3D Reconstruction. International Journal of Pattern Recognition and Artificial Intelligence, 2021, 35, .	1.2	0
121	Session Overview Simultaneous Localisation and Mapping. , 2007, , 187-189.		0
122	The Oxford Road Boundaries Dataset. , 2021, , .		0