

Table 1: List of SLAM / VO algorithms

Name	References	Code
AprilSLAM	[1] (2016), [2] (2011)	github.com/ProjectArtemis/aprilslam
ARM SLAM	[3] (2016)	-
BatSLAM	[4] (2015), [5] (2013)	-
BundleFusion	[6] (2011)	github.com/niessner/BundleFusion
CD SLAM	[7] (2011), [8] (2010)	-
C-KLAM	[9] (2014)	-
CNN SLAM	[10] (2017)	-
COP SLAM	[11] (2015), [12] (2013), [13] (2010)	-
CoSLAM	[14] (2013)	github.com/danping/CoSLAM
DolphinSLAM	[15] (2016), [16] (2015)	github.com/dolphin-slam
DP SLAM	[17] (2004), [18] (2003)	users.cs.duke.edu/~parr/dpslam
DPPTAM	[19] (2015)	github.com/alejocb/dpptom
DSO	[20] (2016)	github.com/JakobEngel/dso
DT SLAM	[21] (2014)	github.com/plumonito/dtslam
DTAM	[22] (2011)	github.com/anuranbaka/OpenDTAM
DVO	[23] (2013)	github.com/tum-vision/dvo_slam
EIF SLAM	[24] (2011), [25] (2011), [26] (2008)	-
EKF SLAM	[27] (2015), [28] (2014), [29] (2012) [30] (2008), [31] (2006), [32] (2006) [33] (2004), [34] (2002)	-
ElasticFusion	[35] (2015)	github.com/mp3guy/ElasticFusion
FAB-MAP	[36] (2012), [37] (2010), [38] (2010) [39] (2009), [40] (2008)	github.com/arenglover/openfabmap
FastSLAM	[41] (2014) [42] (2013), [29] (2012), [43] (2004), [44] (2003), [45] (2002)	github.com/bushuhui/fastslam
FrameSLAM	[46] (2008)	-
GPSLAM	[47] (2011)	-
GP-SLAM	[48] (2017), [49] (2017)	github.com/gtrll/gpslam
Graph SLAM	[50] (2010), [51] (2006), [52] (2006)	-
Hector SLAM	[53] (2011)	github.com/tu-darmstadt-ros-pkg/hector_slam
KinectFusion	[54] (2012), [55] (2011), [56] (2011)	github.com/PointCloudLibrary/pcl
Kintinuous	[57] (2013), [58] (2013), [59] (2012)	github.com/mp3guy/Kintinuous
LSD SLAM	[60] (2014), [61] (2013)	github.com/tum-vision/lsd_slam
MonoSLAM	[62] (2014), [63] (2007)	github.com/rrg-polito/mono-slam
MR SLAM	[64] (2016), [65] (2013), [66] (2006), [67] (2006), [68] (2003)	-
NID SLAM	[69] (2017)	-
OKVIS	[70] (2015), [71] (2014), [72] (2013)	github.com/ethz-asl/okvis_ros
ORB SLAM	[73] (2017), [74] (2016), [75] (2015)	github.com/raulmur/ORB_SLAM2

Pop-up SLAM	[76] (2016)	github.com/shichaoy/pop_up_image
PTAM	[77] (2007)	github.com/Oxford-PTAM/PTAM-GPL
RatSLAM	[78] (2013), [79] (2009), [80] (2008), [81] (2006), [82] (2005), [83] (2004)	github.com/davidmball/ratslam
RD SLAM	[84] (2013)	-
REBVO	[85] (2016)	github.com/JuanTarrio/rebvo
REMODE	[86] (2014)	github.com/uzh-rpg/rpg_open_remode
RFM SLAM	[87] (2016)	github.com/sauravag/edpl-rfmslam
RGB-D SLAM	[88] (2012) [89] (2012)	github.com/felixendres/rgbdsлам_v2
RKSLAM	[90] (2016)	zjucvg.net/rkslam/rkslam.html
ROVIO	[91] (2014)	github.com/ethz-asl/rovio
RSLAM	[92] (2011)	-
ScaViSLAM	[93] (2011)	github.com/strasdat/ScaViSLAM
SEIF SLAM	[94] (2014), [95] (2007)	-
SeqSLAM	[96] (2017), [97] (2013), [98] (2012) [99] (2017)	github.com/subokita/OpenSeqSLAM github.com/siam1251/Fast-SeqSLAM
SLAM++	[100] (2013)	-
SlamDunk	[101] (2015)	github.com/m4nh/skimap_ros
SVO	[102] (2017), [103] (2014)	github.com/uzh-rpg/rpg_svo
UKF SLAM	[104] (2015), [105] (2014), [106] (2009)	-
vSLAM	[107] (2005)	wiki.ros.org/vslam

References

- [1] John Wang and Edwin Olson. “AprilTag 2: Efficient and robust fiducial detection”. In: *IEEE International Conference on Intelligent Robots and Systems* 2016-November (2016), pp. 4193–4198. ISSN: 21530866. DOI: 10.1109/IRoS.2016.7759617.
- [2] Edwin Olson. “AprilTag: A robust and flexible visual fiducial system”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2011), pp. 3400–3407. ISSN: 10504729. DOI: 10.1109/ICRA.2011.5979561. arXiv: arXiv:1011.1669v3.
- [3] Matthew Klingensmith, Siddhartha S. Sirinivasa, and Michael Kaess. “Articulated Robot Motion for Simultaneous Localization and Mapping (ARM-SLAM)”. In: *IEEE Robotics and Automation Letters* 1.2 (2016), pp. 1156–1163. ISSN: 23773766. DOI: 10.1109/LRA.2016.2518242.
- [4] Jan Steckel and Herbert Peremans. “Spatial sampling strategy for a 3D sonar sensor supporting BatSLAM”. In: *IEEE International Conference on Intelligent Robots and Systems* 2015-December (2015), pp. 723–728. ISSN: 21530866. DOI: 10.1109/IRoS.2015.7353452.
- [5] Jan Steckel and Herbert Peremans. “BatSLAM: Simultaneous Localization and Mapping Using Biomimetic Sonar”. In: *PLoS ONE* 8.1 (2013). ISSN: 19326203. DOI: 10.1371/journal.pone.0054076.
- [6] Angela Dai et al. “BundleFusion: Real-time Globally Consistent 3D Reconstruction using On-the-fly Surface Re-integration”. In: 36.3 (2017). ISSN: 15232867. DOI: 10.1145/nnnnnnn.nnnnnnn. arXiv: 1604.01093. URL: <http://arxiv.org/abs/1604.01093>.
- [7] Katrin Pirker, M Ruther, and Horst Bischof. “CD SLAM - continuous localization and mapping in a dynamic world”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS* (2011), pp. 3990–3997.
- [8] Katrin Pirker, Matthias Rüther, and Horst Bischof. “Histogram of Oriented Cameras - A New Descriptor for Visual SLAM in Dynamic Environments”. In: *British Machine Vision Conference* (2010), pp. 76.1–76.12. DOI: 10.5244/C.24.76.
- [9] Esha D. Nerurkar, Kejian J. Wu, and Stergios I. Roumeliotis. “C-KLAM: Constrained keyframe-based localization and mapping”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2014), pp. 3638–3643. ISSN: 10504729. DOI: 10.1109/ICRA.2014.6907385.
- [10] Keisuke Tateno et al. “CNN-SLAM: Real-time dense monocular SLAM with learned depth prediction”. In: (2017). arXiv: 1704.03489. URL: <http://arxiv.org/abs/1704.03489>.
- [11] Gijs Dubbelman and Brett Browning. “COP-SLAM: Closed-Form Online Pose-Chain Optimization for Visual SLAM”. In: *IEEE Transactions on Robotics* 31.5 (2015), pp. 1194–1213. ISSN: 15523098. DOI: 10.1109/TR0.2015.2473455.

- [12] Gijs Dubbelman and Brett Browning. “Closed-form Online Pose-chain SLAM”. In: *IEEE International Conference on Robotics and Automation*. 2013. URL: <http://gijsdubbelman.com/joomla/media/pdf/icra2013.pdf>.
- [13] Gijs Dubbelman, Isaac Esteban, and Klammer Schutte. “Efficient trajectory bending with applications to loop closure”. In: *IEEE/RSJ 2010 International Conference on Intelligent Robots and Systems, IROS 2010 - Conference Proceedings* (2010), pp. 4836–4842. ISSN: 2153-0858. DOI: 10.1109/IROS.2010.5652656.
- [14] Danping Zou and Ping Tan. “CoSLAM : Collaborative Visual SLAM in Dynamic Environments”. In: *IEEE Trans. on Pattern Analysis and Machine Intelligence* (2013). URL: http://www.cs.sfu.ca/~pington/Papers/pami12{_}slam.pdf.
- [15] Guilherme B. Zaffari et al. “Exploring the DolphinSLAM’s parameters”. In: (2016). DOI: 10.1109/OCEANSAP.2016.7485531.
- [16] Luan Silveira et al. “An open-source bio-inspired solution to underwater SLAM”. In: *IFAC-PapersOnLine* 28.2 (2015), pp. 212–217. ISSN: 24058963. DOI: 10.1016/j.ifacol.2015.06.035.
- [17] a.I. Eliazar and R. Parr. “Dp-Slam 2.0”. In: *IEEE International Conference on Robotics and Automation, 2004. Proceedings. ICRA '04. 2004* 2 (2004), pp. 1314–1320. ISSN: 1050-4729. DOI: 10.1109/ROBOT.2004.1308006.
- [18] Austin Eliazar and Ronald Parr. “DP-SLAM: Fast, robust simultaneous localization and mapping without predetermined landmarks”. In: *IJCAI International Joint Conference on Artificial Intelligence* (2003), pp. 1135–1142. ISSN: 10450823. DOI: 10.1109/IROS.2009.5354248.
- [19] Alejo Concha and Javier Civera. “DPPTAM: Dense piecewise planar tracking and mapping from a monocular sequence”. In: *IEEE International Conference on Intelligent Robots and Systems* 2015-Decem (2015), pp. 5686–5693. ISSN: 21530866. DOI: 10.1109/IROS.2015.7354184.
- [20] Jakob Engel, Vladlen Koltun, and Daniel Cremers. “Direct Sparse Odometry”. In: (2016). ISSN: 0162-8828. DOI: 10.1109/TPAMI.2017.2658577. arXiv: 1607.02565. URL: <http://arxiv.org/abs/1607.02565>.
- [21] Herrera C. Daniel et al. “DT-SLAM: Deferred triangulation for robust SLAM”. In: *Proceedings - 2014 International Conference on 3D Vision, 3DV 2014* (2014), pp. 609–616. DOI: 10.1109/3DV.2014.49.
- [22] Richard A. Newcombe, Steven J. Lovegrove, and Andrew J. Davison. “DTAM: Dense tracking and mapping in real-time”. In: *Proceedings of the IEEE International Conference on Computer Vision* (2011), pp. 2320–2327. ISSN: 1550-5499. DOI: 10.1109/ICCV.2011.6126513.

- [23] Christian Kerl, Jurgen Sturm, and Daniel Cremers. “Dense visual SLAM for RGB-D cameras”. In: *IEEE International Conference on Intelligent Robots and Systems* (2013), pp. 2100–2106. ISSN: 21530858. DOI: 10.1109/IRoS.2013.6696650.
- [24] Bo He et al. “A novel combined SLAM based on RBPF-SLAM and EIF-SLAM for mobile system sensing in a large scale environment”. In: *Sensors* 11.11 (2011), pp. 10197–10219. ISSN: 14248220. DOI: 10.3390/s111110197.
- [25] F. Auat Cheein et al. “Optimized EIF-SLAM algorithm for precision agriculture mapping based on stems detection”. In: *Computers and Electronics in Agriculture* 78.2 (2011), pp. 195–207. ISSN: 01681699. DOI: 10.1016/j.compag.2011.07.007. URL: <http://dx.doi.org/10.1016/j.compag.2011.07.007>.
- [26] Weizhen Zhou, Jaime Valls Miro, and Gamini Dissanayake. “Information-efficient 3-D visual SLAM for unstructured domains”. In: *IEEE Transactions on Robotics* 24.5 (2008), pp. 1078–1087. ISSN: 15523098. DOI: 10.1109/TR0.2008.2004834.
- [27] A. H. A. Rahman S. B. Samsuri, H. Zamzuri, M. A. A. Rahman, S. A. Mazlan. “Computational Cost Analysis Of Extended Kalman Filter In Simultaneous Localization & Mapping (EKF-SLAM) Problem For Autonomous Vehicle”. In: *Applied Mechanics and Materials* 10.17 (2015), pp. 1–8.
- [28] Joan Sola. “Simultaneous localization and mapping with the extended Kalman filter”. In: *unpublished. Available: <http://www.joansola.eu/JoanSola/eng/JoanSola.html>* (2014), pp. 1–35. URL: http://www.iri.upc.edu/people/jsola/JoanSola/objectes/curs{_}SLAM/SLAM2D/SLAMcourse.pdf.
- [29] Zeyneb Kurt-Yavuz and Sirma Yavuz. “A comparison of EKF, UKF, FastSLAM2.0, and UKF-based FastSLAM algorithms”. In: *INES 2012 - IEEE 16th International Conference on Intelligent Engineering Systems, Proceedings* (2012), pp. 37–43. DOI: 10.1109/INES.2012.6249866.
- [30] L.M. Paz, J.D. Tardos, and J. Neira. “Divide and Conquer: EKF SLAM in $O(n)$ ”. In: *IEEE Transactions on Robotics* 24.5 (2008), pp. 1107–1120. ISSN: 1552-3098. DOI: 10.1109/TR0.2008.2004639.
- [31] Tim Bailey et al. “Consistency of the EKF-SLAM algorithm”. In: *IEEE International Conference on Intelligent Robots and Systems* 1 (2006), pp. 3562–3568. ISSN: 10504729. DOI: 10.1109/IRoS.2006.281644.
- [32] Tim Bailey and Hugh Durrant-Whyte. “Simultaneous localization and mapping (SLAM): Part I”. In: *IEEE Robotics and Automation Magazine* 13.3 (2006), pp. 108–117. ISSN: 10709932. DOI: 10.1109/MRA.2006.1678144. arXiv: [thereisnot](https://arxiv.org/abs/thereisnot).
- [33] Søren Riisgaard and Morten Rufus Blas. “SLAM for Dummies”. In: *A Tutorial Approach to Simultaneous Localization and Mapping* 22.June (2004), pp. 1–127. ISSN: 00253154. DOI: 10.1017/S0025315400002526. arXiv: 321–330. URL: http://ocw.num.edu.mn/NR/rdonlyres/Aeronautics-and-Astronautics/16-412JSpring-2005/9D8DB59F-24EC-4B75-BA7A-F0916BAB2440/0/1aslam{_}blas{_}repo.pdf.

- [34] Sebastian Thrun. *Probabilistic robotics*. Vol. 45. 3. 2002. ISBN: 9788578110796. DOI: 10.1145/504729.504754. arXiv: arXiv:1011.1669v3. URL: <http://portal.acm.org/citation.cfm?doid=504729.504754>.
- [35] Thomas Whelan et al. “ElasticFusion: Dense SLAM Without A Pose Graph”. In: *Robotics: Science and Systems XI* (2015). ISSN: 2330765X. DOI: 10.15607/RSS.2015.XI.001. URL: <http://www.roboticsproceedings.org/rss11/p01.pdf>.
- [36] Arren Glover et al. “OpenFABMAP: An Open Source Toolbox for Appearance-based Loop Closure Detection”. In: *International Conference on Robotics and Automation*. May. Saint Paul, MN, 2012. DOI: 10.1109/ICRA.2012.6224843. URL: https://eprints.qut.edu.au/50317/1/glover{_}ICRA2012{_}final.pdf.
- [37] Arren J. Glover et al. “FAB-MAP + RatSLAM: Appearance-based SLAM for multiple times of day”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2010), pp. 3507–3512. ISSN: 10504729. DOI: 10.1109/ROBOT.2010.5509547.
- [38] Rohan Paul and Paul Newman. “FAB-MAP 3D: Topological mapping with spatial and visual appearance”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2010), pp. 2649–2656. ISSN: 10504729. DOI: 10.1109/ROBOT.2010.5509587.
- [39] Mark Cummins and Paul Newman. “Highly Scalable Appearance-Only SLAM - FAB-MAP 2.0”. In: *Rss* (2009), pp. 1–8. ISSN: 10504729. DOI: 10.1109/ROBOT.2008.4543473.
- [40] M. Cummins and P. Newman. “FAB-MAP: Probabilistic Localization and Mapping in the Space of Appearance”. In: *The International Journal of Robotics Research* 27.6 (2008), pp. 647–665. ISSN: 0278-3649. DOI: 10.1177/0278364908090961. URL: <http://ijr.sagepub.com/cgi/doi/10.1177/0278364908090961>.
- [41] Mohamed Abouzahir et al. “FastSLAM 2.0 running on a low-cost embedded architecture”. In: *2014 13th International Conference on Control Automation Robotics and Vision, ICARCV 2014*. December. 2014, pp. 1421–1426. ISBN: 9781479951994. DOI: 10.1109/ICARCV.2014.7064524.
- [42] Megan R Naminski. “An Analysis of Simultaneous Localization and Mapping (SLAM) Algorithms”. In: (2013). URL: http://digitalcommons.macalester.edu/cgi/viewcontent.cgi?article=1030{\&}context=mathcs{_}honors.
- [43] Sebastian Thrun et al. “Fastslam: An efficient solution to the simultaneous localization and mapping problem with unknown data association”. In: *Journal of Machine Learning Research* 4.3 (2004), pp. 380–407. DOI: 10.1.1.16.2153.
- [44] Michael Montemerlo et al. “Fast SLAM 2.0 : an improved particle filtering algorithm for simultaneous localization and mapping that provably converges”. In: *International Joint Conference on Artificial Intelligence, IJCAI* (2003), pp. 1151–1156.

- [45] Michael Montemerlo et al. “FastSLAM : A Factored Solution to the Simultaneous Localization and Mapping Problem”. In: (2002). URL: <http://www.cs.cmu.edu/{~}mmde/mmdeaaai2002.pdf>.
- [46] Kurt Konolige and Motilal Agrawal. “FrameSLAM : from Bundle Adjustment to Realtime Visual Mapping”. In: *IEEE Transactions on Robotics* 24.5 (2008), pp. 1–11. ISSN: 15523098. DOI: 10.1109/TR0.2008.2004832.
- [47] Katrin Pirker et al. “GPSlam: Marrying Sparse Geometric and Dense Probabilistic Visual Mapping”. In: *Proceedings of the British Machine Vision Conference 2011* (2011), pp. 115.1–115.12. DOI: 10.5244/C.25.115. URL: <http://www.bmva.org/bmvc/2011/proceedings/paper115/index.html>.
- [48] Xinyan Yan, Vadim Indelman, and Byron Boots. “Incremental sparse GP regression for continuous-time trajectory estimation and mapping”. In: *Robotics and Autonomous Systems* 87 (2017), pp. 120–132. ISSN: 09218890. DOI: 10.1016/j.robot.2016.10.004. arXiv: 1504.02696.
- [49] Jing Dong, Byron Boots, and Frank Dellaert. “Sparse Gaussian Processes for Continuous-Time Trajectory Estimation on Matrix Lie Groups”. In: (2017). arXiv: 1705.06020. URL: <http://arxiv.org/abs/1705.06020>.
- [50] Giorgio Grisetti et al. “A tutorial on graph-based SLAM”. In: *IEEE INTELLIGENT TRANSPORTATION SYSTEMS MAGAZINE* (2010), pp. 31–43. ISSN: 1939-1390. DOI: 10.1109/MITS.2010.939925.
- [51] Edwin Olson, John Leonard, and Seth Teller. “Fast Iterative Alignment of Pose Graphs with Poor Initial Estimates”. In: *ICRA (International Conference on Robotics and Automation)*. May. 2006, pp. 2262–2269.
- [52] Sebastian Thrun and Michael Montemerlo. “The GraphSLAM Algorithm with Applications to Large-Scale Mapping of Urban Structures”. In: *The International Journal of Robotics Research* 25 (2006), pp. 403–429. DOI: 10.1177/0278364906065387.
- [53] Stefan Kohlbrecher et al. “A flexible and scalable SLAM system with full 3D motion estimation”. In: *9th IEEE International Symposium on Safety, Security, and Rescue Robotics, SSRR 2011* (2011), pp. 155–160. ISSN: 2374-3247. DOI: 10.1109/SSRR.2011.6106777.
- [54] Michele Pirovano. “KinFu - an open source implementation of Kinect Fusion + case study: implementing a 3D scanner with PCL”. 2012. URL: <https://homes.di.unimi.it/borghese/Teaching/IntelligentSystems/Documents/PirovanoMichele-VisualReconstructionReport.pdf>.
- [55] S Izadi et al. “KinectFusion: real-time 3D reconstruction and interaction using a moving depth camera”. In: *Proceedings of the 24th annual ACM User Interface Software and Technology Symposium - UIST '11* (2011), pp. 559–568. ISSN: 9781450307161. DOI: 10.1145/2047196.2047270. URL: <http://dl.acm.org/citation.cfm?id=2047270>{\%}5Cnpapers://c80d98e4-9a96-4487-8d06-8e1acc780d86/Paper/p5008.

- [56] Richard A. Newcombe et al. “KinectFusion: Real-time dense surface mapping and tracking”. In: *2011 10th IEEE International Symposium on Mixed and Augmented Reality, ISMAR 2011* (2011), pp. 127–136. ISSN: <null>. DOI: 10.1109/ISMAR.2011.6092378.
- [57] Thomas Whelan et al. “Robust real-time visual odometry for dense RGB-D mapping”. In: *Proceedings - IEEE International Conference on Robotics and Automation* i (2013), pp. 5724–5731. ISSN: 10504729. DOI: 10.1109/ICRA.2013.6631400. arXiv: 9605103 [cs].
- [58] Thomas Whelan et al. “Deformation-based loop closure for large scale dense RGB-D SLAM”. In: *2013 IEEE/RSJ International Conference on Intelligent Robots and Systems* (2013), pp. 548–555. ISSN: 2153-0858. DOI: 10.1109/IRoS.2013.6696405. URL: <http://ieeexplore.ieee.org/document/6696405/>.
- [59] Thomas Whelan, Michael Kaess, and Maurice Fallon. “Kintinuous: Spatially extended kinectfusion”. In: *RSS Workshop on RGB-D: Advanced Reasoning with Depth Cameras* (2012), p. 7.
- [60] Jakob Engel, Thomas Sch, and Daniel Cremers. “LSD-SLAM: Large-Scale Direct Monocular SLAM”. In: (2014), pp. 834–849. ISSN: 16113349. DOI: 10.1007/978-3-319-10605-2_54.
- [61] Jakob Engel, Jurgen Sturm, and Daniel Cremers. “Semi-dense visual odometry for a monocular camera”. In: *Proceedings of the IEEE International Conference on Computer Vision* (2013), pp. 1449–1456. ISSN: 1550-5499. DOI: 10.1109/ICCV.2013.183.
- [62] Ludovico Russo et al. “A ROS Implementation of the Mono-Slam Algorithm”. In: *International Journal of Computer Vision* (2014), pp. 339–351. DOI: 10.1.1.401.8518. URL: <http://www.airccj.org/CSCP/vol4/csit41831.pdf>.
- [63] Andrew Davison et al. “MonoSLAM: real-time single camera SLAM.” In: *Pattern Analysis and Machine Intelligence (PAMI), IEEE Transactions on* 29.6 (2007), pp. 1052–67. ISSN: 0162-8828. DOI: 10.1109/TPAMI.2007.1049. URL: <http://www.ncbi.nlm.nih.gov/pubmed/17431302>.
- [64] Siddharth Choudhary et al. “Multi Robot Object-based SLAM”. 2016. URL: <https://www.cc.gatech.edu/{~}choudhar/publications/Choudhary16iser.pdf>.
- [65] Simoes Martins Joao Alexandre. “MRSLAM - Multi-Robot Simultaneous Localization and Mapping”. Dissertation. Universidade de Coimbra, 2013, p. 67. URL: http://ap.isr.uc.pt/archive/MRSLAM{_}dissertacao{_}Joao{_}Martins-vfinal-040913{_}235208.pdf.
- [66] Xun S. Zhou and Stergios I. Roumeliotis. “Multi-robot SLAM with unknown initial correspondence: The robot rendezvous case”. In: *IEEE International Conference on Intelligent Robots and Systems* (2006), pp. 1785–1792. DOI: 10.1109/IRoS.2006.282219.

- [67] A. Howard. “Multi-robot Simultaneous Localization and Mapping using Particle Filters”. In: *The International Journal of Robotics Research* 25.12 (2006), pp. 1243–1256. ISSN: 0278-3649. DOI: 10.1177/0278364906072250. URL: <http://ijr.sagepub.com/cgi/doi/10.1177/0278364906072250>.
- [68] Yufeng Liu and Sebastian Thrun. “Gaussian Multi-Robot SLAM”. In: *Advances in Neural Information Processing Systems* (2003).
- [69] G Pascoe et al. “NID-SLAM: Robust Monocular SLAM using Normalised Information Distance”. In: *Computer Vision and Pattern Recognition* (2017). URL: http://www.robots.ox.ac.uk/~mobile/Papers/2017CVPR{_}pascoe.pdf.
- [70] Stefan Leutenegger et al. “Keyframe-based visual-inertial odometry using non-linear optimization”. In: *The International Journal of Robotics Research* 34.3 (2015), pp. 314–334. ISSN: 0278-3649. DOI: 10.1177/0278364914554813. URL: <http://journals.sagepub.com/doi/10.1177/0278364914554813>.
- [71] Stefan Leutenegger. “Unmanned solar airplanes - Design and Algorithms for Efficient and Robust Autonomous Operation”. Dissertation. ETH Zurich, 2014. URL: <https://www.research-collection.ethz.ch/bitstream/handle/20.500.11850/90524/eth-46751-02.pdf>.
- [72] S Leutenegger et al. “Keyframe Based Visual Inertial SLAM Using Nonlinear Optimization”. In: *Proc. of Robot.: Sci. and Syst.* (2013), p. 0. ISSN: 0278-3649. DOI: 10.1177/0278364914554813.
- [73] Raul Mur-Artal and Juan D. Tardos. “Visual-Inertial Monocular SLAM with Map Reuse”. 2017. URL: <http://arxiv.org/abs/1610.05949{\%}0Ahttp://dx.doi.org/10.1109/LRA.2017.2653359>.
- [74] Raul Mur-Artal and Juan D. Tardos. “ORB-SLAM2: an Open-Source SLAM System for Monocular, Stereo and RGB-D Cameras”. In: (2016). ISSN: 15523098. DOI: 10.1109/TR0.2012.2197158. arXiv: 1610.06475. URL: <http://arxiv.org/abs/1610.06475>.
- [75] Raul Mur-Artal, J. M M Montiel, and Juan D. Tardos. “ORB-SLAM: A Versatile and Accurate Monocular SLAM System”. In: *IEEE Transactions on Robotics* 31.5 (2015), pp. 1147–1163. ISSN: 15523098. DOI: 10.1109/TR0.2015.2463671. arXiv: 1502.00956.
- [76] Shichao Yang et al. “Pop-up SLAM: Semantic monocular plane SLAM for low-texture environments”. In: *IEEE International Conference on Intelligent Robots and Systems* 2016-November (2016), pp. 1222–1229. ISSN: 21530866. DOI: 10.1109/IR0S.2016.7759204. arXiv: 1703.07334.
- [77] Georg Klein and David Murray. “Parallel tracking and mapping for small AR workspaces”. In: *2007 6th IEEE and ACM International Symposium on Mixed and Augmented Reality, ISMAR* (2007). ISSN: 00472778. DOI: 10.1109/ISMAR.2007.4538852. arXiv: arXiv:1407.5736v1.

- [78] David Ball et al. “OpenRatSLAM: An open source brain-based SLAM system”. In: *Autonomous Robots* 34.3 (2013), pp. 149–176. ISSN: 09295593. DOI: 10.1007/s10514-012-9317-9.
- [79] William Maddern et al. “Augmenting RatSLAM using FAB-MAP-based visual data association”. In: *Proceedings of Australasian Conference on Robotics and Automation 2009* October (2009).
- [80] Michael John Milford. *Robot Navigation from Nature*. Vol. 41. 2008, p. 196. ISBN: 9783540775195. DOI: 10.1007/978-3-540-77520-1.
- [81] Michael Milford, Gordon Wyeth, and David Prasser. “RatSLAM on the edge: Revealing a coherent representation from an overloaded rat brain”. In: *IEEE International Conference on Intelligent Robots and Systems* (2006), pp. 4060–4065. DOI: 10.1109/IR0S.2006.281869.
- [82] Michael J. Milford, David Prasser, and Gordon F. Wyeth. “Experience Mapping : Producing Spatially Continuous Environment Representations using RatSLAM”. In: *Proceedings of Australasian Conference on Robotics and Automation 2005* (2005), pp. 1–10. URL: <http://eprints.qut.edu.au/32840/>.
- [83] Michael Milford, Gordon Wyeth, and David Prasser. “RatSLAM: a hippocampal model for simultaneous localization and mapping”. In: *Robotics and Automation, ...* May 2004 (2004), pp. 403–408. ISSN: 1050-4729. DOI: 10.1109/ROBOT.2004.1307183. URL: <http://ieeexplore.ieee.org/xpls/abs/all.jsp?arnumber=1307183>.
- [84] Wei Tan. “Robust Monocular SLAM in Dynamic Environments”. In: *IEEE International Symposium on Mixed and Augmented Reality 2013*. 2013. DOI: 978-1-4799-2869-9/13.
- [85] Juan Jose Tarrio and Sol Pedre. “Realtime edge-based visual odometry for a monocular camera”. In: *Proceedings of the IEEE International Conference on Computer Vision 11-18-Dece* (2016), pp. 702–710. ISSN: 15505499. DOI: 10.1109/ICCV.2015.87.
- [86] Matia Pizzoli, Christian Forster, and Davide Scaramuzza. “REMODE: Probabilistic, monocular dense reconstruction in real time”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2014), pp. 2609–2616. ISSN: 10504729. DOI: 10.1109/ICRA.2014.6907233.
- [87] Saurav Agarwal, Vikram Shree, and Suman Chakravorty. “RFM-SLAM: Exploiting Relative Feature Measurements to Separate Orientation and Position Estimation in SLAM”. In: (2016). arXiv: 1609.05235. URL: <http://arxiv.org/abs/1609.05235>.
- [88] Felix Endres et al. “3D Mapping with an RGB-D Camera”. In: *IEEE Transactions on Robotics*. Vol. 30. 1. 2012, pp. 1–11. DOI: 10.1109/TR0.2013.2279412.

- [89] F Endres et al. “An evaluation of the RGB-D SLAM system”. In: *IEEE International Conference on Robotics and Automation*. Vol. 3. c. 2012, pp. 1691–1696. ISBN: 9781467314046. DOI: 10.1109/ICRA.2012.6225199.
- [90] Haomin Liu, Guofeng Zhang, and Hujun Bao. “Robust Keyframe-based Monocular SLAM for Augmented Reality”. In: *IEEE International Symposium on Mixed and Augmented Reality Robust*. 2016. ISBN: 9781509036417. DOI: 10.1109/ISMAR.2016.24.
- [91] Michael Bloesch et al. “Robust visual inertial odometry using a direct EKF-based approach”. In: *IEEE International Conference on Intelligent Robots and Systems 2015-Decem* (2015), pp. 298–304. ISSN: 21530866. DOI: 10.1109/IRoS.2015.7353389.
- [92] Christopher Mei et al. “RSLAM: A system for large-scale mapping in constant-time using stereo”. In: *International Journal of Computer Vision* 94.2 (2011), pp. 198–214. ISSN: 09205691. DOI: 10.1007/s11263-010-0361-7.
- [93] Hauke Strasdat et al. “Double Window Optimisation for Constant Time Visual SLAM”. In: *International Conference on Computer Vision*. 2011, pp. 2352–2359. URL: <http://ieeexplore.ieee.org/document/6126517>.
- [94] A. Torres-Gonzalez, J. R. Martinez-De Dios, and A. Ollero. “Efficient robot-sensor network distributed SEIF range-only SLAM”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2014), pp. 1319–1326. ISSN: 10504729. DOI: 10.1109/ICRA.2014.6907023.
- [95] M. R. Walter, R. M. Eustice, and J. J. Leonard. “Exactly Sparse Extended Information Filters for Feature-based SLAM”. In: *The International Journal of Robotics Research* 26.4 (2007), pp. 335–359. ISSN: 0278-3649. DOI: 10.1177/0278364906075026. URL: <http://ijr.sagepub.com/cgi/doi/10.1177/0278364906075026>.
- [96] Dongdong Bai et al. “CNN Feature boosted SeqSLAM for Real-Time Loop Closure Detection”. In: (2017). arXiv: 1704.05016. URL: <http://arxiv.org/abs/1704.05016>.
- [97] N Sünderhauf, Peer Neubert, and Peter Protzel. “Are we there yet? Challenging SeqSLAM on a 3000 km journey across all four seasons”. In: *International Conference on Robotics and Automation* (2013), pp. 1–3. URL: <http://www.tu-chemnitz.de/etit/proaut/rsrsrc/openseqslam.pdf>.
- [98] Michael J. Milford and Gordon F. Wyeth. “SeqSLAM: Visual route-based navigation for sunny summer days and stormy winter nights”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2012), pp. 1643–1649. ISSN: 10504729. DOI: 10.1109/ICRA.2012.6224623.

- [99] Sayem Mohammad Siam and Hong Zhang. “Fast-SeqSLAM: A Fast Appearance Based Place Recognition Algorithm”. In: *2017 IEEE International Conference on Robotics and Automation (ICRA)* (2017), pp. 5702–5708. ISSN: 10504729. DOI: 10.1109/ICRA.2017.7989671. URL: <http://ieeexplore.ieee.org/document/7989671/>.
- [100] Renato F Salas-moreno et al. “SLAM ++ : Simultaneous Localisation and Mapping at the Level of Objects”. 2013. URL: https://www.doc.ic.ac.uk/~{~}ajd/Publications/salas-moreno{_}etal{_}cvpr2013.pdf.
- [101] Nicola Fioraio and Luigi Di Stefano. “SlamDunk: Affordable Real-Time RGB-D SLAM”. In: *Computer Vision - ECCV 2014 Workshops: Zurich, Switzerland, September 6-7 and 12, 2014, Proceedings, Part I*. Ed. by Lourdes Agapito, Michael M Bronstein, and Carsten Rother. Cham: Springer International Publishing, 2015, pp. 401–414. ISBN: 978-3-319-16178-5. DOI: 10.1007/978-3-319-16178-5_28. URL: https://doi.org/10.1007/978-3-319-16178-5{_}28.
- [102] Christian Forster et al. “SVO: Semidirect Visual Odometry for Monocular and Multicamera Systems”. In: *IEEE Transactions on Robotics* 33.2 (2017), pp. 249–265. ISSN: 15523098. DOI: 10.1109/TR0.2016.2623335. arXiv: 1204.3968.
- [103] Christian Forster, Matia Pizzoli, and Davide Scaramuzza. “SVO: Fast semi-direct monocular visual odometry”. In: *Proceedings - IEEE International Conference on Robotics and Automation* May (2014), pp. 15–22. ISSN: 10504729. DOI: 10.1109/ICRA.2014.6906584. arXiv: arXiv:1606.05830v2.
- [104] Meng Wu and Jian Yao. “Adaptive UKF-SLAM based on magnetic gradient inversion method for underwater navigation”. In: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* 9245 (2015), pp. 237–247. ISSN: 16113349. DOI: 10.1007/978-3-319-22876-1_21.
- [105] Hongjian Wang et al. “An adaptive UKF based SLAM method for unmanned underwater vehicle”. In: *Mathematical Problems in Engineering* 2013 (2013). ISSN: 1024123X. DOI: 10.1155/2013/605981.
- [106] Guoquan P. Huang, Anastasios I. Mourikis, and Stergios I. Roumeliotis. “On the complexity and consistency of UKF-based SLAM”. In: *Proceedings - IEEE International Conference on Robotics and Automation* (2009), pp. 4401–4408. ISSN: 10504729. DOI: 10.1109/ROBOT.2009.5152793.
- [107] Niklas Karlsson et al. “The vSLAM algorithm for robust localization and mapping”. In: *Proceedings - IEEE International Conference on Robotics and Automation* 2005 (2005), pp. 24–29. ISSN: 10504729. DOI: 10.1109/ROBOT.2005.1570091.