Table 1: List of SLAM / VO algorithms

Name	Refs	Code	Sensors	Notes
AprilSLAM	[1] (2016) [2] (2011)	Link	Monocular	Uses 2D planar markers
ARM SLAM	[3] (2016)	-	RGB-D	Estimation of robot joint angles
BatSLAM	[4] (2015) [5] (2013)	-	Sonar	Uses RatSLAM as back-end
BundleFusion	[6] (2011)	Link	RGB-D	Focus on 3D-scanning
CD SLAM	[7] (2011) [8] (2010)	-	Monocular	Focus on dynamic environments Custom descriptor
C-KLAM	[9] (2014)	-	Monocular, IMU	Usage of inter-keyframe information
CNN SLAM	[10] (2017)	-	Monocular	Depth prediction via CNN
COP SLAM	[11] (2015) [12] (2013) [13] (2010)	-	- (back-end)	Sparse pose-graph Scale drift aware (Lie groups)
CoSLAM	[14] (2013)	Link	Multiple cameras	Dynamic environments
DEMO	[15] (2014)	-	Monocular, RGB-D, LIDAR	Usage of depth in odometry
DolphinSLAM	[16] (2016) [17] (2015)	Link	Monocular, IMU Sonar, DVL	Underwater (RatSLAM back-end) ROS implementation
DP SLAM	[18] (2004) [19] (2003)	Link	LIDAR	Particle filter back-end
DPPTAM	[20] (2015)	Link	Monocular	Dense, estimates planar areas
DSO	[21] (2016)	Link	Monocular	Semi-dense odometry Estimates camera parameters
DT SLAM	[22] (2014)	Link	Monocular	Tracks 2D and 3D features (indirect)

				Creates combinable submaps Can track pure rotation
DTAM	[23] (2011)	Link	Monocular	Dense, GPU reliant Robust to rapid motion
DVO	[24] (2013)	Link	RGB-D	Entropy based method for loops
EIF SLAM	[25] (2015) [26] (2014) [27] (2012) [28] (2011) [29] (2011) [30] (2008)	-	- (back-end)	
EKF SLAM	[31] (2008) [32] (2006) [33] (2006) [34] (2004) [35] (2002)	-	- (back-end)	
ElasticFusion	[36] (2015)	Link	RGB-D	Windowed surfel-based fusion
FAB-MAP	[37] (2012) [38] (2010) [39] (2010) [40] (2009) [41] (2008)	Link	- (back-end)	Appearance-based loop closure detection
FastSLAM	[42] (2014) [43] (2013) [27] (2012) [44] (2004) [45] (2003) [46] (2002)	Link	- (back-end)	
FrameSLAM	[47] (2008)	-	Stereo	CenSure features
GDVO	[48] (2017)	Link	Stereo	Dense Dual Jacobian scheme
GPSLAM	[49] (2011)	-	RGB-D	Sparse map, dense occupancy grid
GP-SLAM	[50] (2017)	Link		Sparse gaussian process regression

	[51] (2017)			for Lie groups
Graph SLAM	[52] (2010) [53] (2006) [54] (2006)	-	- (back-end)	
Hector SLAM	[55] (2011)	Link	LIDAR, IMU	ROS implementation No loop detection
KinectFusion	[56] (2012) [57] (2011) [58] (2011)	Link	RGB-D	Object segmentation Uses only depth sensor GPU reliant
Kintinious	[59] (2013) [60] (2013) [61] (2012)	Link	RGB-D	Extension of KinectFusion
LOAM	[62] (2015)	Link	LIDAR	
LSD SLAM	[63] (2015) [64] (2014) [65] (2013)	Link	Monocular, Stereo	Semi-dense Runs on CPU
MonoSLAM	[66] (2014) [67] (2007)	Link	Monocular	Particle filter back-end
MR SLAM	[68] (2016) [69] (2013) [70] (2006) [71] (2006) [72] (2003)	-	Multiple robots/ sensors	
NID SLAM	[73] (2017)	-	Monocular	Robust to lighting and weather GPU reliant
OKVIS	[74] (2015) [75] (2014) [76] (2013)	Link	Stereo IMU	Focus on IMU integration
ORB SLAM	[77] (2017) [78] (2016) [79] (2015) [80] (2014)	Link	Monocular, Stereo (v2), RGB-D (v2)	ORB descriptor Runs on CPU Extension of PTAM

Pop-up SLAM	[81] (2016)	Link	Monocular	CNN predicts planar surfaces
PTAM	[82] (2007)	Link	Monocular	Parallel tracking and mapping
RatSLAM	[83] (2013) [84] (2009) [85] (2008) [86] (2006) [87] (2005) [88] (2004)	Link	- (back-end)	Map and pose estimation based on a competitive attractor network, inspired by rat's brains
RD SLAM	[89] (2013)	-	Monocular	Focus on dynamic environments
REBVO	[90] (2016)	Link	Monocular, IMU	Odometry on edges
REMODE	[91] (2014)	Link	Monocular	Dense GPU reliant
RFM SLAM	[92] (2016)	Link	- (back-end)	Relative feature measurements Reduced complexity
RGB-D SLAM	[93] (2012) [94] (2012)	Link	RGB-D	
RKSLAM	[95] (2016)	Link	Monocular, IMU	Robust to fast motion and rotation
ROCC	[96] (2017) [97] (2016) [98] (2016)	-	Monocular, Stereo	Decouples rotation and translation Feature outlier removal Focus on automotive
ROVIO	[99] (2014)	Link	Monocular, IMU	Focus on IMU integration Relative representation
RSLAM	[100] (2011)	-	Stereo	Relative representation No global optimization
ScaViSLAM	[101] (2011)	Link	Stereo	Scale drift aware through using Lie groups
SEIF SLAM	[102] (2014) [103] (2007)	-	- (back-end)	

SeqSLAM	[104] (2017) [105] (2017) [106] (2013) [107] (2012)	Link Link	- (back-end)	Loop detection through image sequences Robust to extreme changes
			RGB-D	Uses KinectFusion
SLAM++	[108] (2013)	-		Real-time object recognition
SlamDunk	[109] (2015)	Link	RGB-D	Runs on CPU
SOFT	[110] (2015)	-	Stereo, IMU	Odometry based on feature selection Separates rotation and translation
S-PTAM	[111] (2017) [112] (2015)	Link	Stereo	Robust to lighting changes feature-based, BRISK descriptor
SVO	[113] (2017) [114] (2014)	Link	Monocular	Focus on runtime (embedded devices) Needs a high framerate
UKF SLAM	[115] (2015) [116] (2014) [117] (2009)	-	- (back-end)	
V-LOAM	[118] (2015)	-	Monocular, LIDAR	Combination of camera and LIDAR
vSLAM	[119] (2005)	Link	LRF	Robustness to changes Combination of particle and Kalman filter in back-end

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