Author: Triebel  
List of Publications

Journal Articles

[J1] Hugo Grimmett, Rudolph Triebel, Rohan Paul and Ingmar Posner,  
**Introspective classification for robot perception,**  

[J2] L.Spinello, R. Triebel and R. Siegwart,  
**Multiclass Multimodal Detection and Tracking in Urban Environments,**  

**Monte Carlo localization in outdoor terrains using multilevel surface maps,**  

**Supervised semantic labeling of places using information extracted from sensor data,**  

[J5] P. Pfaff, R. Triebel and W. Burgard,  
**An Efficient Extension to Elevation Maps for Outdoor Terrain Mapping and Loop Closing,**  

[J6] H. Andreasson, R. Triebel and A. Lilienthal,  
**Non-iterative Vision-based Interpolation of 3D Laser Scans,**  

Conference and Workshop Papers

[C1] E.Y. Puang, P. Lehner, Z.C. Marton, M. Durner, R. Triebel and A. Albu-Schäffer,  
**Visual Repetition Sampling for Robot Manipulation Planning,**  
2019.

[C2] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,  
**Incremental Semi-Supervised Learning from Streams for Object Classification,**  

[C3] C. Nissler, M. Durner, Z.-C. Marton and R. Triebel,  
**Simultaneous Calibration and Mapping,**  
The International Symposium on Experimental Robotics (ISER), Buenos Aires, Argentina,  
Nov. 2018.

[C4] I. Grixa, P. Schulz, W. Stürzl and R. Triebel,  
**Appearance-Based Along-Route Localization for Planetary Missions,**  

[C5] M. Sundermeyer, Z. Marton, M. Durner, M. Brucker and R. Triebel,  
**Implicit 3D Orientation Learning for 6D Object Detection from RGB Images,**  
September 2018, **Best Paper Award.**
[C6] M. Denninger and R. Triebel,
Persistent Anytime Learning of Objects from Unseen Classes,

[C7] Monika Ullrich, Haider Ali, Maximilian Durner, Zoltan-Csaba Marton and Rudolph Triebel,
Selecting CNN Features for Online Learning of 3D Objects,

[C8] Christian Nissler, Zoltan-Csaba Marton, Hannes Kisner, Ulrike Thomas and Rudolph Triebel,
A Method for Hand-Eye and Camera-to-Camera Calibration for Limited Fields of View,
2017.

[C9] Tick Son Wang, Zoltan-Csaba Marton, Manuel Brucker and Rudolph Triebel,
How Robots Learn to Classify New Objects Trained from Small Data Sets,
Conference on Robot Learning (CoRL), 2017.

[C10] Maximilian Durner, Simon Kriegel, Sebastian Riedel, Manuel Brucker, Zoltan-Csaba Marton,
Ferenc Balint-Benczedi and Rudolph Triebel,
Experience-based Optimization of Robotic Perception,
International Conference on Advanced Robotics (ICAR), 2017.

[C11] A. Narr, R. Triebel and D. Cremers,
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,
May 2016.

[C12] I. Chiotellis, R. Triebel, T. Windheuser and D. Cremers,
Non-Rigid 3D Shape Retrieval via Large Margin Nearest Neighbor Embedding,
October 2016.

[C13] D. Mund, R. Triebel and D. Cremers,
Active Online Confidence Boosting for Efficient Object Classification,

V. Evers, M. Fiore, H. Hung, O. A. Islas Ramirez, M. Joosse, H. Kambhaita, T. Kucner,
B. Leibe, A. J. Lilienthal, T. Linder, M. Lohse, M. Magnusson, B. Okal, L. Palmieri, U. Rafi,
M. van Rooij and L. Zhang,
SPENCER: A Socially Aware Service Robot for Passenger Guidance and Help in Busy Airports,

[C15] Y. Tao, R. Triebel and D. Cremers,
Semi-supervised Online Learning for Efficient Classification of Objects in 3D Data Streams,
2015.

[C16] F. Stark, C. Hazirbas, R. Triebel and D. Cremers,
CAPTCHA Recognition with Active Deep Learning,
GCPR Workshop on New Challenges in Neural Computation, Aachen, Germany, 2015.
[C17] T. Windheuser, M. Vestner, E. Rodola, R. Triebel and D. Cremers, 
Optimal Intrinsic Descriptors for Non-Rigid Shape Analysis, 
2014.

[C18] R. Triebel, J. Stühmer, M. Souiai and D. Cremers, 
Active Online Learning for Interactive Segmentation Using Sparse Gaussian 
Processes, 
German Conference on Pattern Recognition, 2014.

[C19] S. Debnath, S. S. Baishya, R. Triebel, V. Dutt and D. Cremers, 
Environment-adaptive Learning: How Clustering Helps to Obtain Good Trai-
ning Data, 
Carsten Lutz and Michael Thielscher(Eds.), KI 2014: Advances in Artificial Intelligence, 

neberger, J. Timpner, S. Rottmann, B. Li, B. Schmidt, T. Nghia Nguyen, E. Cardarelli, S. 
Cattani, S. Brüning, S. Horstmann, M. Stellmacher, H. Mielenz, K. Köser, M. Beermann, 
L. Wolf, M. Pollefeys, S. Brosig, J. Effertz, C. Pradalier and R. Siegwart, 
Toward Automated Driving in Cities using Close-to-Market Sensors, 

Knowing When We Don’t Know: Introspective Classification for Mission-
Critical Decision Making, 

[C22] R. Triebel, H. Grimmett and I. Posner, 
Confidence Boosting: Improving the Introspectiveness of a Boosted Classifier 
for Efficient Learning, 

Introspective Active Learning for Scalable Semantic Mapping, 
Workshop on Active Learning in Robotics: Exploration, Curiosity, and Interaction at Ro-

Driven Learning for Driving: How Introspection Improves Semantic Mapping, 
The International Symposium on Robotics Research (ISRR), 2013.

Semantic Categorization of Outdoor Scenes with Uncertainty Estimates using 
Multi-Class Gaussian Process Classification, 

Parsing Outdoor Scenes from Streamed 3D Laser Data Using Online Cluste-
ring and Incremental Belief Updates, 

[C27] J. Shin, R. Triebel and R. Siegwart, 
Unsupervised 3D Object Discovery and Categorization for Mobile Robots, 
[C28] J. Maye, R. Triebel, L. Spinello and R. Siegwart, 
Bayesian On-line Learning of Driving Behaviors, 
2011.

[C29] R. Kaestner, N. Engelhard, R. Triebel and R. Siegwart, 
A Bayesian Approach to Learning 3D Representations of Dynamic Environments, 
Proc. of The 12th International Symposium on Experimental Robotics (ISER), Berlin, 

[C30] L. Spinello, R. Triebel, D. Vasquez, K. Arras and R Siegwart, 
Exploiting Repetitive Object Patterns for Model Compression and Completion, 

[C31] R. Triebel, J. Shin and R. Siegwart, 
Segmentation and Unsupervised Part-based Discovery of Repetitive Objects, 

[C32] L. Spinello, K. O. Arras, R. Triebel and R. Siegwart, 
A Layered Approach to People Detection in 3D Range Data, 
special track on Physically Grounded AI of AAAI, 2010.

[C33] J. Shin, R. Triebel and R. Siegwart, 
Unsupervised Discovery of Repetitive Objects, 
2010.

[C34] J. Maye, L. Spinello, R. Triebel and R. Siegwart, 
Inferring the Semantics of Direction Signs in Public Places, 
2010.

[C35] L. Spinello, A. Macho, R. Triebel and R. Siegwart, 
Detecting Pedestrians at Very Small Scales, 

[C36] L. Spinello, R. Triebel and R. Siegwart, 
Multiclass Multimodal Detection and Tracking in Urban Environments, 
Proc. of Field and Service Robotics (FSR), 2009.

[C37] D. Engel, L. Spinello, R. Triebel, C. Curio, R. Siegwart and H. Bülthoff, 
Medial Features for Superpixel Segmentation, 

[C38] L. Spinello, R. Triebel and R. Siegwart, 
Multimodal Detection and Tracking of Pedestrians in Urban Environments with Explicit Ground Plane Extraction, 

[C39] L. Spinello, R. Triebel and R. Siegwart, 
Multimodal People Detection and Tracking in Crowded Scenes, 
Author: Triebel

List of Publications

[C40] R. Triebel, O. Martinez Mozos and W. Burgard,
Collective Classification for Labeling of Places and Objects in 2D and 3D Range Data,

[C41] R. Kümmerle, P. Pfaff, R. Triebel and W. Burgard,
Active Monte Carlo Localization in Outdoor Terrains using Multi-Level Surface Maps,
Fachgespräche Autonome Mobile Systeme (AMS), 2007.

[C42] R. Triebel and W. Burgard,
Recovering the Shape of Objects in 3D Point Clouds with Partial Occlusions,

[C43] R. Kümmerle, R. Triebel, P. Pfaff, and W. Burgard,
Monte Carlo Localization in Outdoor Terrains using Multi-Level Surface Maps,

[C44] P. Pfaff, R. Triebel, C. Stachniss, P. Lamon, W. Burgard and R. Siegwart,
Towards Mapping of Cities,
2007.

[C45] R. Triebel, R. Schmidt, O. Martinez Mozos and W. Burgard,
Instance-based AMN Classification for Improved Object Recognition in 2D and 3D Laser Range Data,

[C46] R. Triebel, P. Pfaff and W. Burgard,
Multi-Level Surface Maps for Outdoor Terrain Mapping and Loop Closing,

[C47] R. Triebel, K. Kersting and W. Burgard,
Robust 3D Scan Point Classification using Associative Markov Networks,
2006.

[C48] H. Andreasson, R. Triebel and A. Lilienthal,
Vision-based Interpolation of 3D Laser Scans,

[C49] H. Andreasson, R. Triebel and W. Burgard,
Improving Plane Extraction from 3D Data by Fusing Laser Data and Vision,

[C50] R. Triebel and W. Burgard,
Improving Simultaneous Localization and Mapping in 3D Using Global Constraints,
Proc. of the Twentieth National Conference on Artificial Intelligence (AAAI), 2005.

[C51] R. Triebel, W. Burgard and F. Dellaert,
Using Hierarchical EM to Extract Planes from 3D Range Scans,
2005.
[C52] R. Triebel, B. Frank, J. Meyer and W. Burgard,
First steps towards a robotic system for flexible volumetric mapping of indoor environments,

A system for volumetric robotic mapping of underground mines,

[C54] D. Hähnel, R. Triebel, W. Burgard and S. Thrun,
Map Building with Mobile Robots in Dynamic Environments,