


[J1] Jan Bandouch, Odest Chadwicke Jenkins and Michael Beetz,
A Self-Training Approach for Visual Tracking and Recognition of Complex Human Activity Patterns,

[J2] Michael Beetz, Dominik Jain, Lorenz Mösenlechner, Moritz Tenorth, Lars Kunze, Nico Blodow and Dejan Pangercic,
Cognition-Enabled Autonomous Robot Control for the Realization of Home Chore Task Intelligence,
*Proceedings of the IEEE, Special Issue on Quality of Life Technology*, 100(8): 2454-2471, 2012.

[J3] Freek Stulp, Andreas Fedrizzi, Lorenz Mösenlechner and Michael Beetz,
Learning and Reasoning with Action-Related Places for Robust Mobile Manipulation,

[J4] Zoltan-Csaba Marton, Florian Seidel, Ferenc Balint-Benczedi and Michael Beetz,
Ensembles of Strong Learners for Multi-cue Classification,
*Pattern Recognition Letters (PRL), Special Issue on Scene Understandings and Behaviours Analysis*, 2012.

[C1] Julius Kammerl AND Nico Blodow AND Radu Bogdan Rusu AND Suat Gedikli AND Michael Beetz AND Eckehard Steinbach,
Real-time Compression of Point Cloud Streams,

[C2] Karol Hausman, Christian Bersch, Dejan Pangercic, Sarah Osentoski, Zoltan-Csaba Marton and Michael Beetz,
Segmentation of Cluttered Scenes through Interactive Perception,

[C3] Ross Kidson, Darko Stanimirovic, Dejan Pangercic and Michael Beetz,
Elaborative Evaluation of RGB-D based Point Cloud Registration for Personal Robots,

[C4] Martin Schuster, Dominik Jain, Moritz Tenorth and Michael Beetz,
Learning Organizational Principles in Human Environments,

[C5] Thomas Rühr, Jürgen Sturm, Dejan Pangercic, Michael Beetz and Daniel Cremers,
A Generalized Framework for Opening Doors and Drawers in Kitchen Environments,
[C6] Moritz Tenorth, Alexander Clifford Perzylo, Reinhard Lafrenz and Michael Beetz, 
The RoboEarth language: Representing and Exchanging Knowledge about Actions, Objects, and Environments, 
*IEEE International Conference on Robotics and Automation (ICRA)*, St. Paul, MN, USA, 
May 14–18 2012.

[C7] Lars Kunze, Michael Beetz, Manabu Saito, Haseru Azuma, Kei Okada and Masayuki Inaba, 
Searching Objects in Large-scale Indoor Environments: A Decision-theoretic Approach, 
*IEEE International Conference on Robotics and Automation (ICRA)*, St. Paul, MN, USA, 
May 14–18 2012.

[C8] Ulrich Klank, Lorenz Mösenlechner, Alexis Maldonado and Michael Beetz, 
Robots that Validate Learned Perceptual Models, 
*IEEE International Conference on Robotics and Automation (ICRA)*, St. Paul, MN, USA, 
May 14–18 2012.

[C9] Ingo Kresse and Michael Beetz, 
Movement-aware Action Control – Integrating Symbolic and Control-theoretic Action Execution, 
*IEEE International Conference on Robotics and Automation (ICRA)*, St. Paul, MN, USA, 
May 14–18 2012.

[C10] Moritz Tenorth and Michael Beetz, 
Knowledge Processing for Autonomous Robot Control, 
*AAAI Spring Symposium on Designing Intelligent Robots: Reintegrating AI*, Stanford, CA, 
USA, March 26–28 2012.

[C11] Michael Beetz, Moritz Tenorth, Dejan Pangercic and Benjamin Pitzer, 
Semantic Object Maps for Household Tasks, 

[C12] Michael Beetz, Lorenz Mösenlechner, Moritz Tenorth and Thomas Rühr, 
CRAM – a Cognitive Robot Abstract Machine, 

[C13] Ferenc Balint-Benczedi, Zoltan-Csaba Marton and Michael Beetz, 
Efficient Part-Graph Hashes for Object Categorization, 

[C14] Moritz Tenorth and Michael Beetz, 
Exchange of Action-related Information among Autonomous Robots, 

[C15] Zoltan-Csaba Marton, Ferenc Balint-Benczedi, Florian Seidel, Lucian Cosmin Goron and 
Michael Beetz, 
Object Categorization in Clutter using Additive Features and Hashing of Part-graph Descriptors, 
*Proceedings of Spatial Cognition (SC)*, Abbey Kloster Seeon, Germany, 2012.

[C16] David Gossow, David Weikersdorfer and Michael Beetz, 
Distinctive Texture Features from Perspective-Invariant Keypoints, 
[C17] David Weikersdorfer, David Gossow and Michael Beetz, 
Depth-Adaptive Superpixels, 

[C18] Christian Bersch, Dejan Pangercic, Sarah Osentoski, Karol Hausman, Zoltan-Csaba Marton, Ryoei Ueda, Kei Okada and Michael Beetz, 
Segmentation of Textured and Textureless Objects through Interactive Perception, 

[C19] Moritz Tenorth and Michael Beetz, 
A Unified Representation for Reasoning about Robot Actions, Processes, and their Effects on Objects, 

[C20] Daniel Nyga and Michael Beetz, 
Everything Robots Always Wanted to Know about Housework (But were afraid to ask), 

[C21] Dejan Pangercic, Moritz Tenorth, Benjamin Pitzer and Michael Beetz, 
Semantic Object Maps for Robotic Housework - Representation, Acquisition and Use, 

[C22] Alexis Maldonado, Humberto Alvarez-Heredia and Michael Beetz, 
Improving robot manipulation through fingertip perception, 

[C23] Lucian Cosmin Goron, Zoltan Csaba Marton, Gheorghe Lazea and Michael Beetz, 
Segmenting Cylindrical and Box-like Objects in Cluttered 3D Scenes, 
7th German Conference on Robotics (ROBOTIK), Munich, Germany, May 2012.

[C24] Zoltan-Csaba Marton, Florian Seidel and Michael Beetz, 
Towards Modular Spatio-temporal Perception for Task-adapting Robots, 
Postgraduate Conference on Robotics and Development of Cognition (RobotDoC-PhD), a satellite event of the 22nd International Conference on Artificial Neural Networks (ICANN), Lausanne, Switzerland, 2012.

[C25] Reinhard Klapfer, Lars Kunze and Michael Beetz, 
Pouring and Mixing Liquids — Understanding the Physical Effects of Everyday Robot Manipulation Actions, 
35th German Conference on Artificial Intelligence (KI-2012), Workshop on Human Reasoning and Automated Deduction, Saarbrücken, Germany, September 24–27 2012.
[C26] Lars Kunze, Andrei Haidu and Michael Beetz,
Making Virtual Pancakes — Acquiring and Analyzing Data of Everyday Ma-
nipulation Tasks through Interactive Physics-based Simulations,
Poster and Demo Track of the 35th German Conference on Artificial Intelligence (KI-
2012), Saarbrücken, Germany, September 24–27 2012.

[C27] L. Marconi, C. Melchiorri, M. Beetz, D. Pangercic, R. Siegwart, S. Leutenegger, R. Carloni,
S. Stramigioli, H. Bruyninckx, P. Doherty, A. Kleiner, V. Lippiello, A. Finzi, B. Siciliano,
A. Sala and N. Tomatis,
The SHERPA project: smart collaboration between humans and ground-aerial
robots for improving rescuing activities in alpine environments,
IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR), College
Station, Texas, USA, Nov. 5-8 2012.

[C28] Vladyslav Usenko, Florian Seidel, Zoltan-Csaba Marton and Dejan Pangercic Michael
Beetz,
Furniture Classification using WWW CAD Models,
IROS12 Workshop on Active Semantic Perception (ASP12), Vilamoura, Portugal, October
7 2012.

[J1] S´everin Lemaignan, Raquel Ros, E. Akin Sisbot, Rachid Alami and Michael Beetz,
Grounding the Interaction: Anchoring Situated Discourse in Everyday Human-
Robot Interaction,

[J2] Moritz Tenorth, Ulrich Klank, Dejan Pangercic and Michael Beetz,
Web-enabled Robots – Robots that Use the Web as an Information Resource,

[J3] Markus Waibel, Michael Beetz, Raffaello D’Andrea, Rob Janssen, Moritz Tenorth, Javier
Civera, Jos Elfring, Dorian Gálvez-López, Kai Häsussermann, J.M.M. Montiel, Alexander
Perzylo, Björn Schießle, Oliver Zweigle and René van de Molengraft,
RoboEarth - A World Wide Web for Robots,

[J4] Oscar Martinez Mozos, Zoltan Csaba Marton and Michael Beetz,
Furniture Models Learned from the WWW – Using Web Catalogs to Locate
and Categorize Unknown Furniture Pieces in 3D Laser Scans,

[J5] Zoltan Csaba Marton, Dejan Pangercic, Nico Blodow and Michael Beetz,
Combined 2D-3D Categorization and Classification for Multimodal Perception
Systems,

[C1] Federico Ruiz-Ugalde, Gordon Cheng and Michael Beetz,
Fast adaptation for effect-aware pushing,
11th IEEE-RAS International Conference on Humanoid Robots, Bled, Slovenia, October,
26–28 2011.


[C11] Zoltan-Csaba Marton, Nico Blodow and Michael Beetz,
Advantages of Spatial-temporal Object Maps for Service Robotics,
IEEE Workshop on Advanced Robotics and its Social Impacts (ARSO), Half-Moon Bay, CA, USA, October 2-4 2011.

[C12] Dominik Jain, Klaus von Gleissenthall and Michael Beetz,
Bayesian Logic Networks and the Search for Samples with Backward Simulation and Abstract Constraint Learning,

[C13] Lorenz Mösenlechner and Michael Beetz,
Parameterizing Actions to have the Appropriate Effects,

[C14] Shulei Zhu, Dejan Pangercic and Michael Beetz,
Contracting Curve Density Algorithm for Applications in Personal Robotics,

[C15] Michael Beetz, Ulrich Klank, Ingo Kresse, Alexis Maldonado, Lorenz Mösenlechner, Dejan Pangercic, Thomas Rühr and Moritz Tenorth,
Robotic Roommates Making Pancakes,

[C16] Ingo Kresse, Ulrich Klank and Michael Beetz,
Multimodal Autonomous Tool Analyses and Appropriate Application,

[C17] Manabu Saito, Haseru Chen, Kei Okada, Masayuki Inaba, Lars Kunze and Michael Beetz,
Semantic Object Search in Large-scale Indoor Environments,

[C18] Dejan Pangercic, Vladimir Haltakov and Michael Beetz,
Fast and Robust Object Detection in Household Environments Using Vocabulary Trees with SIFT Descriptors,

[C19] Asako Kanezaki, Zoltan-Csaba Marton, Dejan Pangercic, Tatsuya Harada, Yasuo Kuniyoshi and Michael Beetz,
Voxelized Shape and Color Histograms for RGB-D,
[C20] Zoltan-Csaba Marton, Dejan Pangercic and Michael Beetz,
Efficient Surface and Feature Estimation in RGBD,

[J1] Michael Beetz, Freek Stulp, Piotr Esden-Tempski, Andreas Fedrizzi, Ulrich Klank, Ingo Kresse, Alexis Maldonado and Federico Ruiz,
Generality and Legibility in Mobile Manipulation,

[J2] Wykowska, Agnieszka, Maldonado, Alexis, Beetz, Michael, Schuboe and Anna,
How Humans Optimize Their Interaction with the Environment: The Impact of Action Context on Human Perception,

[J3] Michael Beetz, Moritz Tenorth, Dominik Jain and Jan Bandouch,
Towards Automated Models of Activities of Daily Life,

[J4] Michael Beetz, Dominik Jain, Lorenz Mösenlechner and Moritz Tenorth,
Towards Performing Everyday Manipulation Activities,

[J5] Michael Beetz, Martin Buss and Bernd Radig,
Learning from Humans – Cognition-enabled Computational Models of Everyday Activity,
Künstliche Intelligenz, 2010.

[J6] Martin Buss and Michael Beetz,
CoTeSys – Cognition for Technical Systems,
Künstliche Intelligenz, 2010.

[J7] Moritz Tenorth, Dominik Jain and Michael Beetz,
Knowledge Representation for Cognitive Robots,

[J8] Michael Beetz and Alexandra Kirsch,
Special Issue on Cognition for Technical Systems,
Künstliche Intelligenz, 24: 2010.

Artificial Cognition in Production Systems,
[BC1] Nicolai v. Hoyningen-Huene and Michael Beetz,
Importance Sampling as One Solution to the Data Association Problem in Multi-target Tracking,
AlpeshKumar Ranchordas and Helder Araujo(Eds.), VISIGRAPP 2009, Springer-Verlag

[C1] Moritz Tenorth, Daniel Nyga and Michael Beetz,
Understanding and Executing Instructions for Everyday Manipulation Tasks from the World Wide Web,
IEEE International Conference on Robotics and Automation (ICRA), Anchorage, AK, USA, 1486-1491, May 3-8 2010.

[C2] Moritz Tenorth and Michael Beetz,
Priming Transformational Planning with Observations of Human Activities,

[C3] Dominik Jain, Andreas Barthels and Michael Beetz,
Adaptive Markov Logic Networks: Learning Statistical Relational Models with Dynamic Parameters,

[C4] Dominik Jain and Michael Beetz,
Soft Evidential Update via Markov Chain Monte Carlo Inference,

[C5] Nico Blodow, Zoltan-Csaba Marton, Dejan Pangercic and Michael Beetz,
Making Sense of 3D Data,

[C6] Zoltan-Csaba Marton, Dejan Pangercic, Nico Blodow, Jonathan Kleinehellefort and Michael Beetz,
General 3D Modelling of Novel Objects from a Single View,

[C7] Dejan Pangercic, Moritz Tenorth, Dominik Jain and Michael Beetz,
Combining Perception and Knowledge Processing for Everyday Manipulation,

[C8] Michael Beetz, Lorenz Mösenlechner and Moritz Tenorth,
CRAM – A Cognitive Robot Abstract Machine for Everyday Manipulation in Human Environments,
[C9] Lorenz Mösenlechner, Nikolaus Demmel and Michael Beetz,
Becoming Action-aware through Reasoning about Logged Plan Execution Traces,
IEEE/RSJ International Conference on Intelligent RObots and Systems., Taipei, Taiwan,
2231-2236, October 18-22 2010.

[C10] Federico Ruiz-Ugalde, Gordon Cheng and Michael Beetz,
Prediction of action outcomes using an object model,
2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Taipe-
Taipei, Taiwan, October 18-22 2010.

[C11] Alexis Maldonado, Ulrich Klank and Michael Beetz,
Robotic grasping of unmodeled objects using time-of-flight range data and fin-
ter torque information,
2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Tai-
Taipei, Taiwan, 2586-2591, October 18-22 2010.

[C12] Lars Kunze, Moritz Tenorth and Michael Beetz,
Putting People’s Common Sense into Knowledge Bases of Household Robots,
33rd Annual German Conference on Artificial Intelligence (KI 2010), Karlsruhe, Germany,

[C13] Zoltan-Csaba Marton, Dejan Pangercic, Radu Bogdan Rusu, Andreas Holzbach and Mi-
Michael Beetz,
Hierarchical Object Geometric Categorization and Appearance Classification for Mobile Manipulation,
Proceedings of the IEEE-RAS International Conference on Humanoid Robots, Nashville,
TN, USA, December 6-8 2010.

[C14] Nico Blodow, Dominik Jain, Zoltan-Csaba Marton and Michael Beetz,
Perception and Probabilistic Anchoring for Dynamic World State Logging,
10th IEEE-RAS International Conference on Humanoid Robots, Nashville, TN, USA, 160-
166, December 6-8 2010.

[C15] Moritz Tenorth, Lars Kunze, Dominik Jain and Michael Beetz,
KNOWROB-MAP – Knowledge-Linked Semantic Object Maps,
10th IEEE-RAS International Conference on Humanoid Robots, Nashville, TN, USA, 430-
435, December 6-8 2010.

[C16] Séverin Lemaignan, Raquel Ros, Lorenz Mösenlechner, Rachid Alami and Michael Beetz,
ORO, a knowledge management module for cognitive architectures in robotics,
Proceedings of the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems,
Taipei, Taiwan, 3548-3553, October 18-22 2010.

[C17] Lucian Cosmin Goron, Zoltan Csaba Marton, Gheorghe Lazea and Michael Beetz,
Automatic Layered 3D Reconstruction of Simplified Object Models for Gra-
sping,
Joint 41st International Symposium on Robotics (ISR) and 6th German Conference on Robotics (ROBOTIK), Munich, Germany, 2010.
**Multi Joint Action in CoTeSys — Setup and Challenges**, 
CoTeSys-TR-10-01, CoTeSys Cluster of Excellence: Technische Universität München &38; Ludwig-Maximilians-Universität München, Munich, Germany, June 2010.

[R2] Moritz Tenorth and Michael Beetz, 

[J1] Radu Bogdan Rusu, Aravind Sundaresan, Benoit Morisset, Kris Hauser, Motilal Agrawal, Jean-Claude Latombe and Michael Beetz, 
**Leaving Flatland: Efficient Real-Time 3D Navigation**, 

[J2] Michael Beetz, Nicolai von Hoyningen-Huene, Bernhard Kirchlechner, Suat Gedikli, Francisco Siles, Murat Durus and Martin Lames, 
**ASpoGAMo: Automated Sports Game Analysis Models**, 

[J3] Radu Bogdan Rusu, Jan Bandouch, Franziska Meier, Irfan Essa and Michael Beetz, 
**Human Action Recognition using Global Point Feature Histograms and Action Shapes**, 

[BC1] Wykowska, Agnieszka, Maldonado, Alexis, Beetz, Michael, Schuboe and Anna, 
**How Humans Optimize Their Interaction with the Environment: The Impact of Action Context on Human Perception**, 

**The Cognitive Factory**, 

[C1] Freek Stulp, Erhan Oztop, Peter Pastor, Michael Beetz and Stefan Schaal, 
**Compact Models of Motor Primitive Variations for Predictable Reaching and Obstacle Avoidance**, 
[C2] Freek Stulp, Andreas Fedrizzi, Franziska Zacharias, Moritz Tenorth, Jan Bandouch and Michael Beetz, 
Combining Analysis, Imitation, and Experience-based Learning to Acquire a Concept of Reachability, 

[C3] Ulrich Klank, Dejan Pangercic, Radu Bogdan Rusu and Michael Beetz, 
Real-time CAD Model Matching for Mobile Manipulation and Grasping, 

[C4] Zoltan Csaba Marton, Radu Bogdan Rusu, Dominik Jain, Ulrich Klank and Michael Beetz, 
Probabilistic Categorization of Kitchen Objects in Table Settings with a Composite Sensor, 

[C5] Radu Bogdan Rusu, Ioan Alexandru Sucan, Brian Gerkey, Sachin Chitta, Michael Beetz and Lydia E. Kavraki, 
Real-time Perception-Guided Motion Planning for a Personal Robot, 

[C6] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow, Andreas Holzbach and Michael Beetz, 
Model-based and Learned Semantic Object Labeling in 3D Point Cloud Maps of Kitchen Environments, 

[C7] Radu Bogdan Rusu, Nico Blodow, Zoltan Csaba Marton and Michael Beetz, 
Close-range Scene Segmentation and Reconstruction of 3D Point Cloud Maps for Mobile Manipulation in Human Environments, 

[C8] Radu Bogdan Rusu, Andreas Holzbach, Nico Blodow and Michael Beetz, 
Fast Geometric Point Labeling using Conditional Random Fields, 

[C9] Christoph Ertelt, Thomas Rühr, Dejan Pangercic, Kristina Shea and Michael Beetz, 
Integration of Perception, Global Planning and Local Planning in the Manufacturing Domain, 

[C10] Freek Stulp, Andreas Fedrizzi and Michael Beetz, 
Action-Related Place-Based Mobile Manipulation, 

[C11] Florian Friesdorf, Dejan Pangercic, Heiner Bubb and Michael Beetz, 
Mutually Augmented Cognition, 
Proceedings of the International Conference on Social Robotics (ICSR), 2009.
[C12] Radu Bogdan Rusu, Wim Meeussen, Sachin Chitta and Michael Beetz,  
Laser-based Perception for Door and Handle Identification,  

[C13] Dejan Pangercic, Rok Tavcar, Moritz Tenorth and Michael Beetz,  
Visual Scene Detection and Interpretation using Encyclopedic Knowledge and Formal Description Logic,  
Proceedings of the International Conference on Advanced Robotics (ICAR), Munich, Germany, June 22 - 26 2009.

[C14] Andreas Fedrizzi, Lorenz Moesenlechner, Freek Stulp and Michael Beetz,  
Transformational Planning for Mobile Manipulation based on Action-related Places,  

[C15] Freek Stulp, Andreas Fedrizzi and Michael Beetz,  
Learning and Performing Place-based Mobile Manipulation,  

[C16] Freek Stulp, Ingo Kresse, Alexis Maldonado, Federico Ruiz, Andreas Fedrizzi and Michael Beetz,  
Compact Models of Human Reaching Motions for Robotic Control in Everyday Manipulation Tasks,  
Proceedings of the 8th International Conference on Development and Learning (ICDL), 2009.

[C17] Benoit Morisset, Radu Bogdan Rusu, Aravind Sundaresan, Kris Hauser, Motilal Agrawal, Jean-Claude Latombe and Michael Beetz,  
Leaving Flatland: Toward Real-Time 3D Navigation,  

[C18] Radu Bogdan Rusu, Nico Blodow and Michael Beetz,  
Fast Point Feature Histograms (FPFH) for 3D Registration,  

[C19] Zoltan Csaba Marton, Radu Bogdan Rusu and Michael Beetz,  
On Fast Surface Reconstruction Methods for Large and Noisy Point Clouds,  

[C20] Morten Rufus Blas, Radu Bogdan Rusu, Mogens Blanke and Michael Beetz,  
Fault-tolerant 3D Mapping with Application to an Orchard Robot,  
Proceedings of the 7th IFAC International Symposium on Fault Detection, Supervision and Safety of Technical Processes (SAFEPROCESS’09), Barcelona, Spain, June 30 - July 3, 2009.

[C21] Ulrich Klank, Muhammad Zeeshan Zia and Michael Beetz,  
3D Model Selection from an Internet Database for Robotic Vision,  
[C22] Dominik Jain, Lorenz Mösenlechner and Michael Beetz,
Equipping Robot Control Programs with First-Order Probabilistic Reasoning
Capabilities,

[C23] Nicolai von Hoyningen-Huene and Michael Beetz,
Rao-Blackwellized Resampling Particle Filter for Real-Time Player Tracking
in Sports,
AlpeshKumar Ranchoridas and Helder Araujo(Eds.), Fourth International Conference on
Computer Vision Theory and Applications (VISAPP), Lisboa, Portugal, INSTICC press,

[C24] Andreas Andreakis, Nicolai von Hoyningen-Huene and Michael Beetz,
Incremental Unsupervised Time Series Analysis Using Merge Growing Neural
Gas,
José Carlos Príncipe and Risto Miikkulainen(Eds.), WSOMWSOM, Springer, Lecture No-

[C25] Nicolai von Hoyningen-Huene and Michael Beetz,
Robust real-time multiple target tracking,
Ninth Asian Conference on Computer Vision (ACCV), Xi’an, China, Sep. 2009.

[C26] Moritz Tenorth and Michael Beetz,
KnowRob – Knowledge Processing for Autonomous Personal Robots,

[C27] Muhammad Zeeshan Zia, Ulrich Klank and Michael Beetz,
Acquisition of a Dense 3D Model Database for Robotic Vision,
International Conference on Advanced Robotics (ICAR), 2009.

[C28] Lorenz Mösenlechner and Michael Beetz,
Using Physics- and Sensor-based Simulation for High-fidelity Temporal Pro-
jection of Realistic Robot Behavior,
19th International Conference on Automated Planning and Scheduling (ICAPS’09)., 2009.

[C29] Jan Bandouch and Michael Beetz,
Tracking Humans Interacting with the Environment Using Efficient Hierarchi-
cal Sampling and Layered Observation Models,
IEEE Int. Workshop on Human-Computer Interaction (HCI). In conjunction with IC-

[C30] Moritz Tenorth, Jan Bandouch and Michael Beetz,
The TUM Kitchen Data Set of Everyday Manipulation Activities for Motion
Tracking and Action Recognition,
IEEE International Workshop on Tracking Humans for the Evaluation of their Motion in

[C31] Michael Beetz, Jan Bandouch, Dominik Jain and Moritz Tenorth,
Towards Automated Models of Activities of Daily Life,
First International Symposium on Quality of Life Technology – Intelligent Systems for
[C32] Andreas Leha, Dejan Pangercic, Thomas Rühr and Michael Beetz,  
Optimization of Simulated Production Process Performance using Machine Learning,  

[C33] Li Sun, Ulrich Klank and Michael Beetz,  
EYEWATCHME - 3D Hand and object tracking for inside out activity analysis,  

[C34] Zoltan Csaba Marton, Lucian Cosmin Goron, Radu Bogdan Rusu and Michael Beetz,  
Reconstruction and Verification of 3D Object Models for Grasping,  
*Proceedings of the 14th International Symposium on Robotics Research (ISRR09)*, Lucerne, Switzerland, August 31 – September 3 2009.

[C35] Radu Bogdan Rusu, Andreas Holzbach, Gary Bradski and Michael Beetz,  
Detecting and Segmenting Objects for Mobile Manipulation,  
*Proceedings of IEEE Workshop on Search in 3D and Video (S3DV), held in conjunction with the 12th IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan, September 27 2009.*

[C36] Nico Blodow, Radu Bogdan Rusu, Zoltan Csaba Marton and Michael Beetz,  
Partial View Modeling and Validation in 3D Laser Scans for Grasping,  

[C37] Radu Bogdan Rusu, Andreas Holzbach, Rosen Diankov, Gary Bradski and Michael Beetz,  
Perception for Mobile Manipulation and Grasping using Active Stereo,  

[C38] Michael Beetz, Nico Blodow, Ulrich Klank, Zoltan Csaba Marton, Dejan Pangercic and Radu Bogdan Rusu,  
CoP-Man – Perception for Mobile Pick-and-Place in Human Living Environments,  

[C39] Jun Li, Alexis Maldonado, Michael Beetz and Anna Schuboe,  
Obstacle avoidance in a pick-and-place task,  

[C40] Agnieszka Wykowska, Alexis Maldonado, Michael Beetz and Anna Schuboe,  
How humans optimize their interaction with the environment: The impact of action context on human perception.,  

[C41] Zahid Riaz, Christoph Mayer, Matthias Wimmer, Michael Beetz and Bernd Radig,  
A Model Based approach for Expression Invariant Face Recognition,  
Prof. Michael Beetz

List of Publications

[C42] Zahid Riaz, Christoph Mayer, Michael Beetz and Bernd Radig,
Facial Expressions Recognition from Image Sequences,
2nd International Conference on Cross-Modal Analysis of Speech, Gestures, Gaze and

[C43] Zahid Riaz, Christoph Mayer, Michael Beetz and Bernd Radig,
Model Based Analysis of Face Images for Facial Feature Extraction,

[C44] Zahid Riaz, Michael Beetz and Bernd Radig,
Image Normalization for Face Recognition using 3D Model,
International Conference of Information and Communication Technologies, Karachi, Pak-

[C45] Zahid Riaz, Christoph Mayer, Michael Beetz and Bernd Radig,
3D Model for Face Recognition across Facial Expressions,
Biometric ID Management and Multimodal Communication, Madrid, Spain, Springer, ,

[C46] Zahid Riaz, Suat Gedikli, Michael Beetz and Bernd Radig,
A Unified Features Approach to Human Face Image Analysis and Interpretation,
Affective Computing and Intelligent Interaction, Amsterdam, Netherlands, IEEE, , Vol. , ,
2009.

[C47] Zahid Riaz, Christoph Mayer, Saquib Sarfraz, Michael Beetz and Bernd Radig,
Multi-Feature Fusion in Advanced Robotics Applications,

[R1] Moritz Tenorth, Daniel Nyga and Michael Beetz,
Understanding and Executing Instructions for Everyday Manipulation Tasks
from the World Wide Web,
IAS group, Technische Universität München, Fakultät für Informatik, 2009.

[R2] Dominik Jain, Stefan Waldherr and Michael Beetz,
Bayesian Logic Networks,
IAS Group, Fakultät für Informatik, Technische Universität München, 2009.

[J1] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow, Mihai Dolha and Michael Beetz,
Towards 3D Point Cloud Based Object Maps for Household Environments,
Robotics and Autonomous Systems Journal (Special Issue on Semantic Knowledge in Ro-

[J2] Freek Stulp and Michael Beetz,
Refining the execution of abstract actions with learned action models,
Journal of Artificial Intelligence Research (JAIR), 32: June 2008.

[J3] Freek Stulp and Michael Beetz,
Combining Declarative, Procedural and Predictive Knowledge to Generate
and Execute Robot Plans Efficiently and Robustly,
Prof. Michael Beetz  List of Publications

[J4] Radu Bogdan Rusu, Brian Gerkey and Michael Beetz,
Robots in the kitchen: Exploiting ubiquitous sensing and actuation,
Robotics and Autonomous Systems Journal (Special Issue on Network Robot Systems),
2008.

[C1] Zoltan Csaba Marton, Nico Blodow, Mihai Dolha, Moritz Tenorth, Radu Bogdan Rusu
and Michael Beetz,
Autonomous Mapping of Kitchen Environments and Applications,
Proceedings of the 1st International Workshop on Cognition for Technical Systems,
Munich, Germany, 6-8 October, 2008.

[C2] Radu Bogdan Rusu, Aravind Sundaresan, Benoit Morisset, Motilal Agrawal, Michael Beetz
and Kurt Konolige,
Realtime Extended 3D Reconstruction from Stereo for Navigation,
Proceedings of the 21st IEEE/RSJ International Conference on Intelligent Robots and

[C3] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz,
Interpretation of Urban Scenes based on Geometric Features,
Proceedings of the 21st IEEE/RSJ International Conference on Intelligent Robots and

[C4] Radu Bogdan Rusu, Aravind Sundaresan, Benoit Morisset, Motilal Agrawal and Michael
Beetz,
Leaving Flatland: Realtime 3D Stereo Semantic Reconstruction,
Proceedings of the International Conference on Intelligent Robotics and Applications (ICIRA)

[C5] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz,
Learning Informative Point Classes for the Acquisition of Object Model Maps,
Proceedings of the 10th International Conference on Control, Automation, Robotics and

[C6] Michael Beetz, Freek Stulp, Bernd Radig, Jan Bandouch, Nico Blodow, Mihai Dolha, Andreas
Fedrizzi, Dominik Jain, Uli Klang, Ingo Kresse, Alexis Maldonado, Zoltan Marton,
Lorenz Mäsenlechner, Federico Ruiz, Radu Bogdan Rusu and Moritz Tenorth,
The Assistive Kitchen – A Demonstration Scenario for Cognitive Technical
Systems,
IEEE 17th International Symposium on Robot and Human Interactive Communication
(RO-MAN), Muenchen, Germany, 1-8, 2008.

[C7] Anna Schubö, Alexis Maldonado, Sonja Stork and Michael Beetz,
Subsequent Actions Influence Motor Control Parameters of a Current Grasping Action,
IEEE 17th International Symposium on Robot and Human Interactive Communication
(RO-MAN), Muenchen, Germany, 2008.

[C8] Freek Stulp and Michael Beetz,
Learning Predictive Knowledge to Optimize Robot Motor Control,
[C9] Jan Bandouch, Florian Engstler and Michael Beetz, 
**Evaluation of Hierarchical Sampling Strategies in 3D Human Pose Estimation**, 

[C10] Jan Bandouch, Florian Engstler and Michael Beetz, 
**Accurate Human Motion Capture Using an Ergonomics-Based Anthropometric Human Model**, 
*Proceedings of the Fifth International Conference on Articulated Motion and Deformable Objects (AMDO)*, 2008.

[C11] Radu Bogdan Rusu, Jan Bandouch, Zoltan Csaba Marton, Nico Blodow and Michael Beetz, 
**Action Recognition in Intelligent Environments using Point Cloud Features Extracted from Silhouette Sequences**, 
*IEEE 17th International Symposium on Robot and Human Interactive Communication (RO-MAN)*, Muenchen, Germany, 2008.

[C12] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz, 
**Persistent Point Feature Histograms for 3D Point Clouds**, 

[C13] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow, Mihai Emanuel Dolha and Michael Beetz, 
**Functional Object Mapping of Kitchen Environments**, 

[C14] Radu Bogdan Rusu, Nico Blodow, Zoltan Csaba Marton and Michael Beetz, 
**Aligning Point Cloud Views using Persistent Feature Histograms**, 

[C15] Thomas Rühr, Dejan Pangercic and Michael Beetz, 
**Structured Reactive Controllers and Transformational Planning for Manufacturing**, 

[C16] Dejan Pangercic, Radu Bogdan Rusu and Michael Beetz, 
**3D-Based Monocular SLAM for Mobile Agents Navigating in Indoor Environments**, 

**An Integrated Approach to Realize the Cognitive Machine Shop**, 
[C18] Moritz Tenorth and Michael Beetz,
Towards Practical and Grounded Knowledge Representation Systems for Autonomous Household Robots,

[C19] Dominik Jain, Lorenz Mösenlechner and Michael Beetz,
Equipping Robot Control Programs with First-Order Probabilistic Reasoning Capabilities,

[C20] Lorenz Mösenlechner, Armin Müller and Michael Beetz,
High Performance Execution of Everyday Pick-and-Place Tasks by Integrating Transformation Planning and Reactive Execution,

[C21] Zahid Riaz, Michael Beetz and Bernd Radig,
Shape Invariant Recognition of Segmented Human Faces using Eigenfaces,

[J1] Martin Buss, Michael Beetz and Dirk Wollherr,
CoTeSys — Cognition for Technical Systems,

[C1] Nicolai v. Hoyningen-Huene, Bernhard Kirchlechner and Michael Beetz,
GrAM: Reasoning with Grounded Action Models by Combining Knowledge Representation and Data Mining,

[C2] Freek Stulp, Wolfram Koska, Alexis Maldonado and Michael Beetz,
Seamless Execution of Action Sequences,

[C3] Michael Beetz, Suat Gedikli, Jan Bandouch, Bernhard Kirchlechner, Nico von Hoyningen-Huene and Alexander Perzylo,
Visually Tracking Football Games Based on TV Broadcasts,
Proceedings of the Twentieth International Joint Conference on Artificial Intelligence (IJCAI), 2007.

[C4] Suat Gedikli, Jan Bandouch, Nico von Hoyningen-Huene, Bernhard Kirchlechner and Michael Beetz,
An Adaptive Vision System for Tracking Soccer Players from Variable Camera Settings,
[C5] Matthias Kranz, Alexis Maldonado, Benedikt Hoernler, Radu Bogdan Rusu, Michael Beetz, Gerhard Rigoll and Albrecht Schmidt, 
A Knife and a Cutting Board as Implicit User Interface - Towards Context-Aware Kitchen Utilities, 

[C6] Matthias Kranz, Alexis Maldonado, Radu Bogdan Rusu, Benedikt Hoernler, Gerhard Rigoll, Michael Beetz and Albrecht Schmidt, 
Sensing Technologies and the Player-Middleware for Context-Awareness in Kitchen Environments, 

[C7] Radu Bogdan Rusu, Alexis Maldonado, Michael Beetz and Brian Gerkey, 
Extending Player/Stage/Gazebo towards Cognitive Robots Acting in Ubiquitous Sensor-equipped Environments, 

[C8] Martin Buss, Michael Beetz and Dirk Wollherr, 
CoTeSys — Cognition for Technical Systems, 

[C9] Michael Beetz, Jan Bandouch, Alexandra Kirsch, Alexis Maldonado, Armin Müller and Radu Bogdan Rusu, 
The Assistive Kitchen — A Demonstration Scenario for Cognitive Technical Systems, 

[C10] Alexandra Kirsch and Michael Beetz, 
Training on the Job — Collecting Experience with Hierarchical Hybrid Automata, 

[C11] Armin Müller, Alexandra Kirsch and Michael Beetz, 
Transformational Planning for Everyday Activity, 

[C12] Armin Müller and Michael Beetz, 
Towards a Plan Library for Household Robots, 

[C13] Michael Beetz, Martin Buss and Dirk Wollherr, 
Cognitive Technical Systems — What Is the Role of Artificial Intelligence?, 


[C8] Markus Geipel and Michael Beetz,
Learning to shoot goals, Analysing the Learning Process and the Resulting Policies,
Gerhard Lakemeyer, Elizabeth Sklar, Domenico Sorenti and Tomoichi Takahashi(Eds.),

[C9] Matthias Wimmer, Bernd Radig and Michael Beetz,
A Person and Context Specific Approach for Skin Color Classification,

[J1] Michael Beetz, Bernhard Kirchlechner and Martin Lames,
Computerized Real-Time Analysis of Football Games,

[J2] Michael Beetz and Henrik Grosskreutz,
Probabilistic Hybrid Action Models for Predicting Concurrent Percept-driven Robot Behavior,

[BC1] Michael Beetz,
Towards Comprehensive Computational Models for Plan-Based Control of Autonomous Robots,

[C1] Alexandra Kirsch and Michael Beetz,
Combining Learning and Programming for High-Performance Robot Controllers,

[C2] Alexandra Kirsch, Michael Schweitzer and Michael Beetz,
Making Robot Learning Controllable: A Case Study in Robot Navigation,

[C3] Freek Stulp and Michael Beetz,
Optimized Execution of Action Chains Using Learned Performance Models of Abstract Actions,
Proceedings of the Nineteenth International Joint Conference on Artificial Intelligence (IJCAI), 2005.

[C4] Simone Hämmerle, Matthias Wimmer, Bernd Radig and Michael Beetz,
Sensor-based Situated, Individualized, and Personalized Interaction in Smart Environments,
[J1] Robert Hanek and Michael Beetz,
The Contracting Curve Density Algorithm: Fitting Parametric Curve Models to Images Using Local Self-adapting Separation Criteria,

[J2] Michael Beetz, Thorsten Schmitt, Robert Hanek, Sebastian Buck, Freek Stulp, Derik Schröter and Bernd Radig,
The AGILO Robot Soccer Team – Experience-based Learning and Probabilistic Reasoning in Autonomous Robot Control,

[C1] Derik Schröter and Michael Beetz,
RG Mapping: Building Object-Oriented Representations of Structured Human Environments,
6-th Open Russian-German Workshop on Pattern Recognition and Image Understanding (OGRW), Katun/Russia, 2004.

[C2] Michael Beetz, Sven Flossmann and Thomas Stammeier,
Motion and Episode Models for (Simulated) Football Games: Acquisition, Representation, and Use,

[C3] Michael Beetz, Alexandra Kirsch and Armin Müller,
RPL-LEARN: Extending an Autonomous Robot Control Language to Perform Experience-based Learning,

[C4] Armin Müller, Alexandra Kirsch and Michael Beetz,
Object-oriented Model-based Extensions of Robot Control Languages,
27th German Conference on Artificial Intelligence, 2004.

[C5] Freek Stulp, Alexandra Kirsch, Suat Gedikli and Michael Beetz,
AGILO RoboCuppers 2004,

[C6] Freek Stulp, Suat Gedikli and Michael Beetz,
Evaluating Multi-Agent Robotic Systems Using Ground Truth,

[C7] M. Beetz, F. Fischer, S. Flossmann, B. Kirchlechner, A. Unseld and C. Holzer,
Watching Football with the Eyes of Experts: Integrated Intelligent Systems for the Automatic Analysis of (Simulated) Football Games,

[C8] M. Beetz, B. Kirchlechner and F. Fischer,
Interpretation and Processing of Position Data for the Empirical Study of the Behavior of Simulation League Robocup Teams,
[C9] D. Schröter and M. Beetz, 
Acquiring Models of Rectangular Objects for Robot Maps, 

[C10] D. Schröter, T. Weber, M. Beetz and B. Radig, 
Detection and Classification of Gateways for the Acquisition of Structured Robot Maps, 

[J1] Robert Hanek, Thorsten Schmitt, Sebastian Buck and Michael Beetz, 
Towards RoboCup without color labeling, 

[C1] Michael Beetz, Freek Stulp, Alexandra Kirsch, Armin Müller and Sebastian Buck, 
Autonomous Robot Controllers Capable of Acquiring Repertoires of Complex Skills, 

[C2] Thorsten Schmitt and Michael Beetz, 
Designing Probabilistic State Estimators for Autonomous Robot Control, 

[C3] Thorsten Schmitt, Robert Hanek and Michael Beetz, 
Developing Comprehensive State Estimators for Robot Soccer, 

[C4] Michael Beetz, Suat Gedikli, Robert Hanek, Thorsten Schmitt and Freek Stulp, 
AGILO RoboCuppers 2003: Computational Principles and Research Directions, 

[J1] Thorsten Belker, Michael Beetz and Armin Cremers, 
Learning Action Models for the Improved Execution of Navigation Plans, 

[J2] Thorsten Schmitt, Robert Hanek, Michael Beetz, Sebastian Buck and Bernd Radig, 
Cooperative Probabilistic State Estimation for Vision-based Autonomous Mobile Robots, 

[B1] Michael Beetz, 
Plan-based Control of Robotic Agents, 

[B2] Michael Beetz, Joachim Hertzberg, Malik Ghallab and Martha Pollack, 
Advances in Plan-based Control of Robotic Agents, 
Prof. Michael Beetz

List of Publications

[BC1] Michael Beetz,
Towards integrated computational models for the plan-based control of robotic agents.,

[C1] Robert Hanek, Thorsten Schmitt, Sebastian Buck and Michael Beetz,
Towards RoboCup without Color Labeling,

[C2] Thorsten Schmitt, Michael Beetz, Robert Hanek and Sebastian Buck,
Watch their Moves: Applying Probabilistic Multiple Object Tracking to Autonomous Robot Soccer,
The Eighteenth National Conference on Artificial Intelligence, Edmonton, Canada, 2002.

[C3] Robert Hanek, Thorsten Schmitt, Sebastian Buck and Michael Beetz,
Fast Image-based Object Localization in Natural Scenes,

[C4] Michael Beetz, Sebastian Buck, Robert Hanek, Thorsten Schmitt and Bernd Radig,
The AGILO Autonomous Robot Soccer Team: Computational Principles, Experiences, and Perspectives,

[C5] Sebastian Buck, Michael Beetz and Thorsten Schmitt,
Approximating the Value Function for Continuous Space Reinforcement Learning in Robot Control,

[C6] Sebastian Buck, Michael Beetz and Thorsten Schmitt,
M-ROSE: A Multi Robot Simulation Environment for Learning Cooperative Behavior,

[C7] Sebastian Buck, Michael Beetz and Thorsten Schmitt,
Reliable Multi Robot Coordination Using Minimal Communication and Neural Prediction,

[C8] Sebastian Buck, Freek Stulp, Michael Beetz and Thorsten Schmitt,
Machine Control Using Radial Basis Value Functions and Inverse State Projection,
Michael Beetz, Sebastian Buck, Robert Hanek, Andreas Hofhauser and Thorsten Schmitt,
AGILO RoboCuppers 2002: Applying Cooperative Game State Estimation Experience-based Learning, and Plan-based Control to Autonomous Robot Soccer,

Michael Beetz and Andreas Hofhauser,
Plan-based control for autonomous robot soccer,

Michael Beetz,
Plan Representation for Robotic Agents,

D. Schröter, M. Beetz and J.-S. Gutmann,
RG Mapping: Learning Compact and Structured 2D Line Maps of Indoor Environments,
11th IEEE International Workshop on Robot and Human Interactive Communication (ROMAN), Berlin/Germany, 2002.

Michael Beetz, Tom Arbuckle, Maren Bennewitz, Wolfram Burgard, Armin Cremers, Dieter Fox, Henrik Grosskreutz, Dirk Hähnel and Dirk Schulz,
Integrated Plan-based Control of Autonomous Service Robots in Human Environments,

Michael Beetz,
Plan Management for Robotic Agents,
KI - Künstliche Intelligenz; Special Issue on Planning and Scheduling, 15(2): 12-17, 2001.

Michael Beetz,
Structured Reactive Controllers,

Thorsten Schmitt, Robert Hanek, Sebastian Buck and Michael Beetz,
Cooperative Probabilistic State Estimation for Vision-based Autonomous Mobile Robots,

Thorsten Schmitt, Robert Hanek, Sebastian Buck and Michael Beetz,
Cooperative Probabilistic State Estimation for Vision-based Autonomous Soccer Robots,
Prof. Michael Beetz

List of Publications


Prof. Michael Beetz

List of Publications

[B1] Michael Beetz,
    Concurrent Reactive Plans: Anticipating and Forestalling Execution Failures,

[C1] Michael Beetz and Thorsten Belker,
    Environment and Task Adaptation for Robotic Agents,

[C2] Michael Beetz and Thorsten Belker,
    Learning Structured Reactive Navigation Plans from Executing MDP Navigation Policies,

[C3] Michael Beetz, Jürgen Schumacher, Armin Cremers, Bernd Hellingrath and Christian Mazzocco,
    Perspectives on Plan-based Multiagent Systems for Distributed Supply Chain Management in the Steel Industry,

[C4] Michael Beetz and Henrik Grosskreutz,
    Probabilistic Hybrid Action Models for Predicting Concurrent Percept-driven Robot Behavior,

[C5] Michael Beetz,
    Runtime Plan Adaptation in Structured Reactive Controllers,

[PhD1] Michael Beetz,
    Plan-based Control of Robotic Agents,
    University of Bonn, 2000.

[C1] Tom Arbuckle and Michael Beetz,
    Controlling Image Processing; Providing Extensible, Run-time Configurable Functionality on Autonomous Robots,

[C2] Michael Beetz and Thorsten Belker,
    Experience- and Model-based Transformational Learning of Symbolic Behavior Specifications,
Prof. Michael Beetz

List of Publications

[C3] T. Arbuckle and M. Beetz,
Extensible, Runtime-configurable Image Processing on Robots — the RECIPE system,

[C4] Michael Beetz, Maren Bennewitz and Henrik Grosskreutz,
Probabilistic, Prediction-based Schedule Debugging for Autonomous Robot Office Couriers,
Proceedings of the 23rd German Conference on Artificial Intelligence (KI 99), Bonn, Germany, Springer Verlag, 1999.

[C5] Michael Beetz,
Structured Reactive Controllers — A computational Model of Everyday Activity,

[C6] Michael Beetz, Markus Giesenschlag, Roman Englert, Eberhard Gülch and Armin Cremers,
Semi-automatic Acquisition of Symbolically-annotated 3D Models of Office Environments,

[J1] Michael Beetz, Wolfram Burgard, Dieter Fox and Armin Cremers,
Integrating Active Localization into High-level Control Systems,

[C1] M. Beetz and H. Grosskreutz,
Causal Models of Mobile Service Robot Behavior,

[C2] Tom Arbuckle and Michael Beetz,
RECIPE - A System for Building Extensible, Run-time Configurable, Image Processing Systems,

[C3] Michael Beetz and Maren Bennewitz,
Planning, Scheduling, and Plan Execution for Autonomous Robot Office Couriers,

[C4] Michael Beetz, Tom Arbuckle, Armin Cremers and Markus Mann,
Transparent, Flexible, and Resource-adaptive Image Processing for Autonomous Service Robots,
Michael Beetz

List of Publications

[C5] Michael Beetz and Hanno Peters,
Structured Reactive Communication Plans — Integrating Conversational Actions into High-level Robot Control Systems,
Proceedings of the 22nd German Conference on Artificial Intelligence (KI 98), Bremen, Germany, Springer Verlag, 1998.

[C1] M. Beetz and D. McDermott,
Expressing Transformations of Structured Reactive Plans,

[C2] M. Beetz and D. McDermott,
Fast Probabilistic Plan Debugging,

[C1] M. Beetz and D. McDermott,
Executing Structured Reactive Plans,
L. Pryor and S. Steel(Eds.), AAAI Fall Symposium: Issues in Plan Execution, 1996.

[C2] M. Beetz and D. McDermott,
Local Planning of Ongoing Activities,

[PhD1] M. Beetz,
Anticipating and Forestalling Execution Failures in Structured Reactive Plans,
Yale University, 1996.

[C1] M. Beetz and D. McDermott,
Improving Robot Plans During Their Execution,

[C1] M. Beetz and D. McDermott,
Declarative Goals in Reactive Plans,