Computer Vision Group Munich List of Publications

RoboSherlock: Unstructured Information Processing Framework for Robotic Perception, 

[C1] Michael Beetz, Ferenc Balint-Benczedi, Nico Blodow, Daniel Nyga, Thiemo Wiedemeyer and Zoltan-Csaba Marton, 
RoboSherlock: Unstructured Information Processing for Robot Perception, 

[J1] Marton, Zoltan-Csaba, Balint-Benczedi, Ferenc, Mozos, Oscar Martinez, Blodow, Nico, Kanezaki, Asako, Goron, Lucian Cosmin, Pangercic, Dejan, Beetz and Michael, 
Part-Based Geometric Categorization and Object Reconstruction in Cluttered Table-Top Scenes, 

[C1] Amin, Sikandar, Müller, Philipp, Bulling, Andreas, Andriluka and Mykhaylo, 
Test-time Adaptation for 3D Human Pose Estimation, 
*German Conference on Pattern Recognition (GCPR/DAGM)*, Münster, Germany, September 2014.

[C2] Belagiannis, Vasileios, Amin, Sikandar, Andriluka, Mykhaylo, Schiele, Bernt, Navab, Nassir, Ilic and Slobodan, 
3D Pictorial Structures for Multiple Human Pose Estimation, 
2014 *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Columbus, Ohio, United States, June 2014.

[PhD1] Nico Blodow, 
Managing Belief States for Service Robots - Dynamic Scene Perception and Spatio-temporal Memory, 
Technische Universität München, 2014.

[J1] Moritz Tenorth, Alexander Clifford Perzylo, Reinhard Lafrenz and Michael Beetz, 
Representation and Exchange of Knowledge about Actions, Objects, and Environments in the RoboEarth Framework, 

[J2] Moritz Tenorth and Michael Beetz, 
KnowRob – A Knowledge Processing Infrastructure for Cognition-enabled Robots. Part 1: The KnowRob System, 
[C1] Thomas Witzig, J. Marius Zöllner, Dejan Pangercic, Sarah Osentoski, Philip Roan, Rainer Jäkel and Rüdiger Dillmann,
**Context Aware Shared Autonomy for Robotic Manipulation Tasks,**

[C2] Karol Hausman, Ferenc Balint-Benczedi, Dejan Pangercic, Zoltan-Csaba Marton, Ryohei Ueda, Kei Okada and Michael Beetz,
**Tracking-based Interactive Segmentation of Textureless Objects,**

[C3] Amin, Sikandar, Mykhaylo Andriluka, Rohrbach, Marcus, Schiele and Bernt,
**Multi-view Pictorial Structures for 3D Human Pose Estimation,**
*British Machine Vision Conference (BMVC), Bristol, UK*, 2013.

[C4] Charmayne Mary Lee Hughes, Moritz Tenorth, Marta Bienkiewicz and Joachim Hermsdörfer,
**Action sequencing and error production in stroke patients with apraxia – Behavioral modeling using Bayesian Logic Networks,**

[C5] Moritz Tenorth, Fernando De la Torre and Michael Beetz,
**Learning Probability Distributions over Partially-Ordered Human Everyday Activities,**

[C6] Lorenz Mösenlechner and Michael Beetz,
**Fast Temporal Projection Using Accurate Physics-Based Geometric Reasoning,**

[C7] Kriegel, Simon, Brucker, Manuel, Marton, Zoltan-Csaba, Bodenmüller, Tim, Suppa and Michael,
**Combining object modeling and recognition for active scene exploration,**

[C8] Rink, Christian, Marton, Zoltan-Csaba, Seth, Daniel, Bodenmüller, Tim, Suppa and Michael,
**Feature based particle filter registration of 3D surface models and its application in robotics,**

[C9] Nissler, Christian, Marton, Zoltan-Csaba, Suppa and Michael,
**Sample consensus fitting of bivariate polynomials for initializing EM-based modeling of smooth 3D surfaces,**


[C5] Rohrbach, Marcus, Amin, Sikandar, Andriluka, Mykhaylo, Schiele and Bernt,
A Database for Fine Grained Activity Detection of Cooking Activities,
2012 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Providence, United States, June 2012.

[C6] Martin Schuster, Dominik Jain, Moritz Tenorth and Michael Beetz,
Learning Organizational Principles in Human Environments,
IEEE International Conference on Robotics and Automation (ICRA), St. Paul, MN, USA,

[C7] Thomas Rühr, Jürgen Sturm, Dejan Pangeric, Michael Beetz and Daniel Cremers,
A Generalized Framework for Opening Doors and Drawers in Kitchen Environments,
IEEE International Conference on Robotics and Automation (ICRA), St. Paul, MN, USA,
May 14–18 2012.

[C8] 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.

[C9] Lars Kunze, Michael Beetz, Manabu Saito, Haceru 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.

[C10] 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.

[C11] 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.

[C12] 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.

[C13] Michael Beetz, Moritz Tenorth, Dejan Pangeric and Benjamin Pitzer,
Semantic Object Maps for Household Tasks,

[C14] Michael Beetz, Lorenz Mösenlechner, Moritz Tenorth and Thomas Rühr,
CRAM – a Cognitive Robot Abstract Machine,
[C15] Ferenc Balint-Benczedi, Zoltan-Csaba Marton and Michael Beetz, 
Efficient Part-Graph Hashes for Object Categorization, 
5th International Conference on Cognitive Systems (CogSys), 2012.

[C16] Daniel di Marco, Moritz Tenorth, Kai Häussermann, Oliver Zweigle and Paul Levi, 
RoboEarth Action Recipe Execution, 

[C17] Moritz Tenorth and Michael Beetz, 
Exchange of Action-related Information among Autonomous Robots, 

[C18] 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.

[C19] David Gossow, David Weikersdorfer and Michael Beetz, 
Distinctive Texture Features from Perspective-Invariant Keypoints, 

[C20] David Weikersdorfer, David Gossow and Michael Beetz, 
Depth-Adaptive Superpixels, 

[C21] Christian Bersch, Dejan Pangercic, Sarah Osentoski, Karol Hausman, Zoltan-Csaba Marton, Ryohei Ueda, Kei Okada and Michael Beetz, 
Segmentation of Textured and Textureless Objects through Interactive Perception, 

[C22] Moritz Tenorth and Michael Beetz, 
A Unified Representation for Reasoning about Robot Actions, Processes, and their Effects on Objects, 

[C23] Daniel Nyga and Michael Beetz, 
Everything Robots Always Wanted to Know about Housework (But were afraid to ask), 

[C24] Dejan Pangercic, Moritz Tenorth, Benjamin Pitzer and Michael Beetz, 
Semantic Object Maps for Robotic Housework - Representation, Acquisition and Use, 

[C25] Alexis Maldonado, Humberto Alvarez-Heredia and Michael Beetz, 
Improving robot manipulation through fingertip perception, 
[C26] 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.


[J1] Séverin 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 Panceric 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 Häussermann, 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 Panceric, 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,  

[C2] Sebastian Albrecht, Karinne Ramirez-Amaro, Federico Ruiz-Ugalde, David Weikerdorfer, Marion Leibold, Michael Ulbrich and Michael Beetz,  
Imitating human reaching motions using physically inspired optimization principles,  

[C3] Lars Kunze, Mihai Emanuel Dolha, Emitza Guzman and Michael Beetz,  
Simulation-based Temporal Projection of Everyday Robot Object Manipulation,  
Yolum, Tumer, Stone and Sonenberg(Eds.), Proc. of the 10th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS 2011), Taipei, Taiwan, IFAAMAS, May, 2–6 2011.

[C4] Lars Kunze, Tobias Roehm and Michael Beetz,  
Towards Semantic Robot Description Languages,  

[C5] Daniel Nyga, Moritz Tenorth and Michael Beetz,  
How-Models of Human Reaching Movements in the Context of Everyday Manipulation Activities,  
[C6] Ulrich Klank, Daniel Carton and Michael Beetz,
Transparent Object Detection and Reconstruction on a Mobile Platform,
IEEE International Conference on Robotics and Automation (ICRA), Shanghai, China,
May, 9–13 2011.

[C7] Michael Beetz, Ulrich Klank, Alexis Maldonado, Dejan Pangercic and Thomas Rühr,
Robotic Roommates Making Pancakes - Look Into Perception-Manipulation Loop,

[C8] Nico Blodow, Zoltan-Csaba Marton, Dejan Pangercic, Thomas Rühr, Moritz Tenorth and Michael Beetz,
Inferring Generalized Pick-and-Place Tasks from Pointing Gestures,

[C9] Nico Blodow, Lucian Cosmin Goron, Zoltan-Csaba Marton, Dejan Pangercic, Thomas Rühr, Moritz Tenorth and Michael Beetz,
Autonomous Semantic Mapping for Robots Performing Everyday Manipulation Tasks in Kitchen Environments,

[C10] Lars Kunze, Mihai Emanuel Dolha and Michael Beetz,
Logic Programming with Simulation-based Temporal Projection for Everyday Robot Object Manipulation,

[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] Paul Maier, Dominik Jain and Martin Sachenbacher,
Compiling AI Engineering Models for Probabilistic Inference,

[C14] Dominik Jain,
Knowledge Engineering with Markov Logic Networks: A Review,
DKB 2011: Proceedings of the Third Workshop on Dynamics of Knowledge and Belief, 2011.
[C15] Lorenz Mösenlechner and Michael Beetz,  
Parameterizing Actions to have the Appropriate Effects,  

[C16] Shulei Zhu, Dejan Pangercic and Michael Beetz,  
Contracting Curve Density Algorithm for Applications in Personal Robotics,  

[C17] Michael Beetz, Ulrich Klank, Ingo Kresse, Alexis Maldonado, Lorenz Mösenlechner, Dejan Pangercic, Thomas Rühm and Moritz Tenorth,  
Robotic Roommates Making Pancakes,  

[C18] Ingo Kresse, Ulrich Klank and Michael Beetz,  
Multimodal Autonomous Tool Analyses and Appropriate Application,  

[C19] Manabu Saito, Haseru Chen, Kei Okada, Masayuki Inaba, Lars Kunze and Michael Beetz,  
Semantic Object Search in Large-scale Indoor Environments,  

[C20] Dejan Pangercic, Vladimir Haltakov and Michael Beetz,  
Fast and Robust Object Detection in Household Environments Using Vocabulary Trees with SIFT Descriptors,  

[C21] Asako Kanezaki, Zoltan-Csaba Marton, Dejan Pangercic, Tatsuya Harada, Yasuo Kuniyoshi and Michael Beetz,  
Voxelized Shape and Color Histograms for RGB-D,  

[C22] Zoltan-Csaba Marton, Dejan Pangercic and Michael Beetz,  
Efficient Surface and Feature Estimation in RGBD,  

[C23] William R. Murray and Dominik Jain,  
Modeling Cognitive Frames for Situations with Markov Logic Networks,  
[C24] Christoph Mayer and Bernd Radig,
Learning Displacement Experts from Multi-band Images for Face Model Fitting,

[C25] Barbara Gonsior, Stefan Sosnowski, Christoph Mayer, Jürgen Blume, Bernd Radig, Dirk Wollherr, and Kolja Kühnlenz,
Improving Aspects of Empathy and Subjective Performance for HRI through Mirroring Facial Expressions,

[C26] Maier, Paul, Jain, Dominik, Sachenbacher and Martin,
Diagnostic Hypothesis Enumeration vs. Probabilistic Inference for Hierarchical Automata Models,

[C27] Aitor Aldoma, Markus Vincze, Nico Blodow, David Gossow, Suat Gedikli, Radu Bogdan Rusu and Gary R. Bradski,
CAD-model recognition and 6DOF pose estimation using 3D cues,
*IEEE International Conference on Computer Vision Workshops, ICCV 2011 Workshops, Barcelona, Spain, November 6-13, 2011*, 585-592, 2011.

[PhD1] von Hoyningen-Huene and Nicolai,
Real-time Tracking of Player Identities in Team Sports,
Technische Universität München, 2011.

[PhD2] Jan Bandouch,
Observing and Interpreting Complex Human Activities in Everyday Environments,
Technische Universität München, 2011.

[PhD3] Moritz Tenorth,
Knowledge Processing for Autonomous Robots,
Technische Universität München, 2011.

[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 Möslenlechner 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,

[J6] Martin Buss and Michael Beetz,
CoTeSys – Cognition for Technical Systems,

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

[J8] Freek Stulp, Hans Utz, Michael Isik and Gerd Mayer,
Implicit Coordination with Shared Belief: A Heterogeneous Robot Soccer Team Case Study,

[J9] Michael Beetz and Alexandra Kirsch,
Special Issue on Cognition for Technical Systems,

[J10] Alexandra Kirsch, Thibault Kruse, A. Ekin Sisbot, Rachid Alami, Martin Lawitzky, Dražen Bršić, Sandra Hirche, Patrizia Basili and Stefan Glasauer,
Plan-based Control of Joint Human-Robot Activities,

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,

[C1] Moritz Tenorth, Daniel Nyga and Michael Beetz,
Understanding and Executing Instructions for Everyday Manipulation Tasks from the World Wide Web,
[C2] Moritz Tenorth and Michael Beetz, 
**Priming Transformational Planning with Observations of Human Activities**, 

[C3] Thibault Kruse, Alexandra Kirsch, E. Akin Sisbot and Rachid Alami, 
**Dynamic Generation and Execution of Human Aware Navigation Plans**, 

[C4] Dominik Jain, Andreas Barthels and Michael Beetz, 
**Adaptive Markov Logic Networks: Learning Statistical Relational Models with Dynamic Parameters**, 

[C5] S. Sosnowski, C. Mayer, K. Kühlenz and B. Radig, 
**Mirror my emotions! Combining facial expression analysis and synthesis on a robot**, 

[C6] Frank Wallhoff, Tobias Rehrl, Christoph Mayer and Bernd Radig, 
**Real-Time Face and Gesture Analysis for Human-Robot Interaction**, 

[C7] Alexandra Kirsch and Fan Cheng, 
**Learning Ability Models for Human-Robot Collaboration**, 

[C8] Dominik Jain and Michael Beetz, 
**Soft Evidential Update via Markov Chain Monte Carlo Inference**, 

[C9] Paul Maier, Dominik Jain, Stefan Waldherr and Martin Sachenbacher, 
**Plan Assessment for Autonomous Manufacturing as Bayesian Inference**, 

[C10] Nico Blodow, Zoltan-Csaba Marton, Dejan Pangercic and Michael Beetz, 
**Making Sense of 3D Data**, 

[C11] Zoltan-Csaba Marton, Dejan Pangercic, Nico Blodow, Jonathan Kleinehellefort and Michael Beetz, 
**General 3D Modelling of Novel Objects from a Single View**, 

[C12] Dejan Pangercic, Moritz Tenorth, Dominik Jain and Michael Beetz, 
**Combining Perception and Knowledge Processing for Everyday Manipulation**, 
Computer Vision Group Munich List of Publications

[C13] Michael Beetz, Lorenz Mösenlechner and Moritz Tenorth,
CRAM – A Cognitive Robot Abstract Machine for Everyday Manipulation in
Human Environments,
IEEE/RSJ International Conference on Intelligent Robots and Systems, Taipei, Taiwan,
1012-1017, October 18-22 2010.

[C14] Lorenz Mösenlechner, Nikolaus Demmel and Michael Beetz,
Becoming Action-aware through Reasoning about Logged Plan Execution Tra-
ces,
IEEE/RSJ International Conference on Intelligent RObots and Systems., Taipei, Taiwan,
2231-2236, October 18-22 2010.

[C15] Thibault Kruse, Alexandra Kirsch, E. Akin Sisbot and Rachid Alami,
Exploiting Human Cooperation in Human-Centered Robot Navigation,
IEEE International Symposium in Robot and Human Interactive Communication (Ro-
Man), 2010.

[C16] 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), Tai-
pei, Taiwan, October 18-22 2010.

[C17] Alexis Maldonado, Ulrich Klank and Michael Beetz,
Robotic grasping of unmodeled objects using time-of-flight range data and fin-
ger torque information,
2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Tai-
pei, Taiwan, 2586-2591, October 18-22 2010.

[C18] 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,

[C19] Alexandra Kirsch and Yuxiang Chen,
A Testbed for Adaptive Human-Robot Collaboration,
33rd Annual German Conference on Artificial Intelligence (KI 2010), 2010.

[C20] Thibault Kruse and Alexandra Kirsch,
Towards Opportunistic Action Selection in Human-Robot Cooperation,
33rd Annual German Conference on Artificial Intelligence (KI 2010), 2010.

[C21] Zoltan-Csaba Marton, Dejan Pangercic, Radu Bogdan Rusu, Andreas Holzbach and Mi-
chael 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.

[C22] 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.
[C23] Moritz Tenorth, Lars Kunze, Dominik Jain and Michael Beetz,  
**KNOWROB-MAP – Knowledge-Linked Semantic Object Maps**,  
*10th IEEE-RAS International Conference on Humanoid Robots*,  

[C24] 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.

[C25] C. Mayer, S. Sosnowski, K. Kühnlenz and B. Radig,  
**Towards robotic facial mimicry: system development and evaluation**,  
*Proceedings of the 19th IEEE International Symposium on Robot and Human Interactive Communication*,  
Vol., 2010.

[C26] Lucian Cosmin Goron, Zoltan Csaba Marton, Gheorghe Lazea and Michael Beetz,  
**Automatic Layered 3D Reconstruction of Simplified Object Models for Grasping**,  
*Joint 41st International Symposium on Robotics (ISR) and 6th German Conference on Robotics (ROBOTIK)*,  
Munich, Germany, 2010.

**A Distributed Many-Camera System for Multi-Person Tracking**,  
R. Wichert and B. de Ruyter(Eds.), *Proceedings of the First International Joint Conference on Ambient Intelligence (AmI 2010)*,  
Springer Lecture Notes in Computer Science, November 2010.

[R1] Alexandra Kirsch,  
**Be a Robot — A Study on Everyday Activities Performed in Real and Virtual Worlds**,  
TUM-I1006, Technische Universität München, 2010.

[R2] D. Brščić, M. Eggers, F. Rohrmüller, O. Kourakos, S. Sosnowski, D. Althoff, M. Lawitzky,  
**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.

[R3] 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] Alexandra Kirsch, 

[J4] Radu Bogdan Rusu, Jan Bandouch, Franziska Meier, Irfan Essa and Michael Beetz, 
**Human Action Recognition using Global Point Feature Histograms and Action Shapes**, 

[J5] Christoph Mayer, Matthias Wimmer and Bernd Radig, 
**Adjusted Pixel Features for Facial Component Classification**, 

[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 Pangeric, Radu Bogdan Rusu and Michael Beetz, 
**Real-time CAD Model Matching for Mobile Manipulation and Grasping**, 


[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,
Proceedings of the 8th International Conference on Development and Learning (ICDL).,
1-7, 2009.

[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,
Proceedings of the IEEE International Conference on Robotics and Automation (ICRA),
Kobe, Japan, May 12-17, 2009.

[C18] Radu Bogdan Rusu, Nico Blodow and Michael Beetz,
Fast Point Feature Histograms (FPFH) for 3D Registration,
Proceedings of the IEEE International Conference on Robotics and Automation (ICRA),
Kobe, Japan, May 12-17, 2009.

[C19] Zoltan Csaba Marton, Radu Bogdan Rusu and Michael Beetz,
On Fast Surface Reconstruction Methods for Large and Noisy Point Clouds,
Proceedings of the IEEE International Conference on Robotics and Automation (ICRA),
Kobe, Japan, May 12-17 2009.

[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 Ranchordas and Helder Araujo(Eds.), Fourth International Conference on
Computer Vision Theory and Applications (VISAPP), Lisboa, Portugal, INSTICC press,
Computer Vision Group Munich

List of Publications

[C24] Andreas Andreakis, Nicolai von Hoyningen-Huene and Michael Beetz,
Incremental Unsupervised Time Series Analysis Using Merge Growing Neural Gas,

[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 Projection 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 Hierarchical Sampling and Layered Observation Models,

[C30] Moritz Tenorth, Jan Bandouch and Michael Beetz,
The TUM Kitchen Data Set of Everyday Manipulation Activities for Motion Tracking and Action Recognition,

[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 Better Living, Pittsburgh, Pennsylvania USA, 2009.

[C32] Dominik Jain, Paul Maier and Gregor Wylezich,
Markov Logic as a Modelling Language for Weighted Constraint Satisfaction Problems,

[C33] Andreas Lehа, Dejan Pangerсic, Thomas Rühr and Michael Beetz,
Optimization of Simulated Production Process Performance using Machine Learning,
[C34] Maier and Paul,  
**Self-Diagnosis and Self-Planning with Constraint-based Hybrid Models**,  

[C35] Maier, Paul, Sachenbacher, Martin, Rühr, Thomas, Kuhn and Lukas,  
**Integrating Model-based Diagnosis and Prognosis in Autonomous Production**,  
*Proc. First International Conference on Prognostics and Health Management (PHM’09)*, San Diego, CA, USA, September 2009.

[C36] Maier, Paul, Sachenbacher and Martin,  
**Self-Monitoring and Control for Embedded Systems using Hybrid Constraint Automata**,  
*Proc. Workshop on Self-X in Mechatronics and other Engineering Applications*, Paderborn, Germany, September 2009.

[C37] Maier, Paul, Sachenbacher and Martin,  
**Diagnosis and Fault-adaptive Control for Mechatronic Systems using Hybrid Constraint Automata**,  
*Proc. First International Conference on Prognostics and Health Management (PHM’09)*, San Diego, CA, USA, September 2009.

[C38] Maier, Paul, Sachenbacher, Martin, Rühr, Thomas, Kuhn and Lukas,  
**Integrated Plan Tracking and Prognosis for Autonomous Production Processes**,  

[C39] Maier, Paul, Sachenbacher, Martin, Rühr, Thomas, Kuhn and Lukas,  
**Integrated Diagnosis and Plan Assessment for Autonomous Production Processes**,  

[C40] Maier, Paul, Sachenbacher, Martin, Rühr, Thomas, Kuhn and Lukas,  
**Constraint-Based Integration of Plan Tracking and Prognosis for Autonomous Production**,  

[C41] Maier, Paul, Sachenbacher and Martin,  
**Factory Monitoring and Control with Mixed Hardware/Software, Discrete/Continuous Models**,  

[C42] Li Sun, Ulrich Klank and Michael Beetz,  
**EYEWATCHME - 3D Hand and object tracking for inside out activity analysis**,  
[C43] Alexandra Kirsch, Thibault Kruse and Lorenz Mösenelechner,
An Integrated Planning and Learning Framework for Human-Robot Interaction,
4th Workshop on Planning and Plan Execution for Real-World Systems (held in conjunction with ICAPS 09), 2009.

[C44] 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.

[C45] 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.

[C46] Nico Blodow, Radu Bogdan Rusu, Zoltan Csaba Marton and Michael Beetz,
Partial View Modeling and Validation in 3D Laser Scans for Grasping,

[C47] Radu Bogdan Rusu, Andreas Holzbach, Rosen Diankov, Gary Bradski and Michael Beetz,
Perception for Mobile Manipulation and Grasping using Active Stereo,

[C48] 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,

[C49] Jun Li, Alexis Maldonado, Michael Beetz and Anna Schuboe,
Obstacle avoidance in a pick-and-place task,

[C50] 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.,

[C51] Florian Engstler, Jan Bandouch and Heiner Bubb,
MeMoMan - Model Based Markerless Capturing of Human Motion,
The 17th World Congress on Ergonomics (International Ergonomics Association, IEA), Beijing, China, 2009.

[C52] Zahid Riaz, Christoph Mayer, Matthias Wimmer, Michael Beetz and Bernd Radig,
A Model Based approach for Expression Invariant Face Recognition,
[C53] 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

[C54] Zahid Riaz, Christoph Mayer, Michael Beetz and Bernd Radig,
Model Based Analysis of Face Images for Facial Feature Extraction,

[C55] Christoph Mayer, Matthias Wimmer, Martin Eggers and Bernd Radig,
Facial Expression Recognition with 3D Deformable Models,
Proceedings of the 2nd International Conference on Advancements Computer-Human Inter-

[C56] Zahid Riaz, Michael Beetz and Bernd Radig,
Image Normalization for Face Recognition using 3D Model,
International Conference of Information and Communication Technologies, Karachi, Pak-

[C57] Zahid Riaz, Christoph Mayer, Michael Beetz and Bernd Radig,
3D Model for Face Recognition across Facial Expressions,

[C58] Zahid Riaz, Suat Gedikli, Michael Beetz and Bernd Radig,
A Unified Features Approach to Human Face Image Analysis and Interpretation,

[C59] Zahid Riaz, Christoph Mayer, Saquib Sarfraz, Michael Beetz and Bernd Radig,
Multi-Feature Fusion in Advanced Robotics Applications,

[C60] M.S. Sarfraz, A. Saeed, M.H. Khan and Zahid Riaz,
Bayesian Prior Models for Vehicle Make and Model Recognition,

[C61] Jürgen Gast, Alexander Bannat, Tobias Rehrl, Christoph Mayer, Frank Wallhoff, Gerhard
Rigoll and Bernd Radig,
Did I Get it Right: Head Gesture Analysis for Human-Machine Interaction,

[PhD1] Suat Gedikli,
Continual and Robust Estimation of Camera Parameters in Broadcasted
Sports Games,
Technische Universität München, 2009.

[PhD2] Rusu and Radu Bogdan,
Semantic 3D Object Maps for Everyday Manipulation in Human Living Envi-
ronments,
Technische Universität München, 2009.
[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,

[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,

[J4] Radu Bogdan Rusu, Brian Gerkey and Michael Beetz,
Robots in the kitchen: Exploiting ubiquitous sensing and actuation,

[J5] Ulrich Klank, N. Padoy, H. Feussner and N. Navab,
Automatic feature generation in endoscopic images,

[J6] Matthias Wimmer, Freek Stulp, Sylvia Pietzsch and Bernd Radig,
Learning Local Objective Functions for Robust Face Model Fitting,

[J7] Matthias Wimmer, Zahid Riaz, Christoph Mayer and Bernd Radig,
Recognizing Facial Expressions Using Model-based Image Interpretation,

[B1] Matthias Wimmer,
Future User Interfaces Enhanced by Facial Expression Recognition – Interpreting Human Faces with Model-based Techniques,
VDM, Verlag Dr. Müller March 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**, 

[C3] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz, 
**Interpretation of Urban Scenes based on Geometric Features**, 

[C4] Paul Maier and Martin Sachenbacher, 
**Constraint Optimization and Abstraction for Embedded Intelligent Systems**, 

[C5] Paul Maier, 
**Adaptive Abstraction of Constraint-Based Models for Self-Diagnosis and Planning**, 

[C6] Martin Sachenbacher and Stefan Schwoon, 
**Model-based Testing Using Quantified CSPs: A Map**, 

[C7] Stefan Heinz and Martin Sachenbacher, 
**Using Model Counting to Find Optimal Distinguishing Tests**, 
*Proc. First International Workshop on Counting Problems in CSP and SAT, and other neighbouring problems (Counting’08)*, 2008.

[C8] Paul Maier and Martin Sachenbacher, 
**Adaptive Domain Abstraction in a Soft-Constraint Message-Passing Algorithm**, 

[C9] Martin Sachenbacher and Paul Maier, 
**Test Strategy Generation using Quantified CSPs**, 

[C10] Martin Sachenbacher and Stefan Schwoon, 
**Model-based Test Generation Using Quantified CSPs**, 
[C11] Radu Bogdan Rusu, Aravind Sundaresan, Benoit Morisset, Motilal Agrawal and Michael Beetz,
Leaving Flatland: Realtime 3D Stereo Semantic Reconstruction,

[C12] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz,
Learning Informative Point Classes for the Acquisition of Object Model Maps,

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.

[C14] 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.

[C15] Freek Stulp and Michael Beetz,
Learning Predictive Knowledge to Optimize Robot Motor Control,

[C16] Jan Bandouch, Florian Engstler and Michael Beetz,
Evaluation of Hierarchical Sampling Strategies in 3D Human Pose Estimation,

[C17] 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.

[C18] 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.

[C19] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow and Michael Beetz,
Persistent Point Feature Histograms for 3D Point Clouds,
[C20] Radu Bogdan Rusu, Zoltan Csaba Marton, Nico Blodow, Mihai Emanuel Dolha and Michael Beetz,  
Functional Object Mapping of Kitchen Environments,  

[C21] Radu Bogdan Rusu, Nico Blodow, Zoltan Csaba Marton and Michael Beetz,  
Aligning Point Cloud Views using Persistent Feature Histograms,  

[C22] Thomas Rühr, Dejan Pangercic and Michael Beetz,  
Structured Reactive Controllers and Transformational Planning for Manufacturing,  

[C23] 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,  

[C25] Moritz Tenorth and Michael Beetz,  
Towards Practical and Grounded Knowledge Representation Systems for Autonomous Household Robots,  

[C26] Dominik Jain, Lorenz Mösenlechner and Michael Beetz,  
Equipping Robot Control Programs with First-Order Probabilistic Reasoning Capabilities,  

[C27] Lorenz Mösenlechner, Armin Müller and Michael Beetz,  
High Performance Execution of Everyday Pick-and-Place Tasks by Integrating Transformation Planning and Reactive Execution,  

[C28] Matthias Wimmer, Christoph Mayer, Freek Stulp and Bernd Radig,  
Face Model Fitting based on Machine Learning from Multi-band Images of Facial Components,  
Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment, held in conjunction with CVPR, Anchorage, AK, USA, June 2008.
[C29] Matthias Wimmer, Christoph Mayer, Sylvia Pietzsch and Bernd Radig,
Tailoring Model-based Techniques for Facial Expression Interpretation,
The First International Conference on Advances in Computer-Human Interaction (ACHI08), Sainte Luce, Martinique, February 2008.

[C30] Matthias Wimmer, Björn Schuller, Dejan Arsic, Bernd Radig and Gerhard Rigoll,
Low-level Fusion of Audio and Video Feature for Multi-modal Emotion Recognition,

[C31] Sylvia Pietzsch, Matthias Wimmer, Freek Stulp and Bernd Radig,
Face Model Fitting with Generic, Group-specific, and Person-specific Objective Functions,

[C32] Matthias Wimmer, Bruce A. MacDonald, Dinuka Jayamuni and Arpit Yadav,
Facial Expression Recognition for Human-robot Interaction – A Prototype,

[C33] Björn Schuller, Matthias Wimmer, Lorenz Mösenlechner, Christian Kern and Gerhard Rigoll,
Brute-Forcing Hierarchical Functionals for Paralinguistics: a Waste of Feature Space?,

[C34] Matthias Wimmer, Christoph Mayer and Bernd Radig,
Robustly Classifying Facial Components Using a Set of Adjusted Pixel Features,
Proc. of the International Conference on Face and Gesture Recognition (FGR08), Amsterdam, Netherlands, September 2008.

[C35] Matthias Wimmer, Shinya Fujie, Freek Stulp, Tetsunori Kobayashi and Bernd Radig,
An ASM Fitting Method Based on Machine Learning that Provides a Robust Parameter Initialization for AAM Fitting,
Proc. of the International Conference on Automatic Face and Gesture Recognition (FGR08), Amsterdam, Netherlands, September 2008.

[C36] Christoph Mayer, Matthias Wimmer, Freek Stulp, Zahid Riaz, Anton Roth, Martin Eggers and Bernd Radig,
A Real Time System for Model-based Interpretation of the Dynamics of Facial Expressions,
Proc. of the International Conference on Automatic Face and Gesture Recognition (FGR08), Amsterdam, Netherlands, September 2008.

[C37] Matthias Wimmer, Christoph Mayer, Martin Eggers and Bernd Radig,
Are You Happy with Your First Name?,
[C38] Christoph Mayer, Matthias Wimmer, Freek Stulp, Zahid Riaz, Anton Roth, Martin Eggers and Bernd Radig,
Interpreting the Dynamics of Facial Expressions in Real Time Using Model-based Techniques,

[C39] Björn Schuller, Matthias Wimmer, Dejan Arsic, Tobias Moosmayr and Gerhard Rigoll,
Detection of Security Related Affect and Behaviour in Passenger Transport,
Proc. of the 9th INTERSPEECH, Brisbane, Australia, ISCA, ASSTA, September 2008.

[C40] Matthias Wimmer, Sylvia Pietzsch, Christoph Mayer and Bernd Radig,
Robustly Estimating the Color of Facial Components Using a Set of Adjusted Pixel Features,

[C41] Matthias Wimmer, Christoph Mayer and Bernd Radig,
Recognizing Facial Expressions Using Model-based Image Interpretation,
Verbal and Nonverbal Communication Behaviours, COST Action 2102 International Workshop, Vietri sul Mare, Italy, , April 2008.

[C42] Zahid Riaz, Christoph Mayer, Matthias Wimmer and Bernd Radig,
Model Based Face Recognition Across Facial Expressions,

[C43] Zahid Riaz, Michael Beetz and Bernd Radig,
Shape Invariant Recognition of Segmented Human Faces using Eigenfaces,

[PhD1] Alexandra Kirsch,
Integration of Programming and Learning in a Control Language for Autonomous Robots Performing Everyday Activities,
Technische Universität München, 2008.

[PhD2] Armin Müller,
Transformational Planning for Autonomous Household Robots using Libraries of Robust and Flexible Plans,
Technische Universität München, 2008.

[R1] Stefan Heinz and Martin Sachenbacher,
Using Model Counting to Find Optimal Distinguishing Tests,

[J1] 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?,  

[C14] Radu Bogdan Rusu, Nico Blodow, Zoltan-Csaba Marton, Alina Soos and Michael Beetz, 
Towards 3D Object Maps for Autonomous Household Robots,  

[C15] Dominik Jain, Bernhard Kirchlechner and Michael Beetz, 
Extending Markov Logic to Model Probability Distributions in Relational Domains,  

[C16] Lars Kunze, Kai Lingemann, Andreas Nüchter and Joachim Hertzberg, 
Salient Visual Features to Help Close the Loop in 6D SLAM,  

[C17] Matthias Wimmer, Bernd Radig and Christoph Mayer,  
SIPBILD – Mimik- und Gestikerkennung in der Mensch-Maschinen-Schnittstelle,  

[C18] Björn Schuller, Matthias Wimmer, Dejan Arsic, Gerhard Rigoll and Bernd Radig,  
Audiovisual Behavior Modeling by Combined Feature Spaces,  


[J1] Radu Bogdan Rusu,
**Acquiring Models of Everyday Activities for Robotic Control in ’Current PhD Research in Pervasive Computing’,**
A. Ferscha, M. Langheinrich and A. Schmidt (Eds.), *Technical Reports - University of Munich, Department of Computer Science, Media Informatics Group, LMU-MI-2005-3: March 2006.*

[J2] Matthias Wimmer and Bernd Radig,
**Adaptive Skin Color Classificator,**

[J3] Matthias Wimmer and Simone Hämmerle,
**Bitte recht freundlich,**

[C1] Radu Bogdan Rusu, Alexis Maldonado, Michael Beetz, Matthias Kranz, Lorenz Mösenlechner, Paul Holleis and Albrecht Schmidt,
**Player/Stage as Middleware for Ubiquitous Computing,**

[C2] Matthias Kranz, Radu Bogdan Rusu, Alexis Maldonado, Michael Beetz and Albrecht Schmidt,
**A Player/Stage System for Context-Aware Intelligent Environments,**

[C3] Freek Stulp, Mark Pflüger and Michael Beetz,
**Feature Space Generation using Equation Discovery,**
Proceedings of the 29th German Conference on Artificial Intelligence (KI), 2006.

[C4] Michael Isik, Freek Stulp, Gerd Mayer and Hans Utz,
**Coordination without Negotiation in Teams of Heterogeneous Robots,**

[C5] Michael Beetz, Jan Bandouch, Suat Gedikli, Nico von Hoyningen-Huene, Bernhard Kirchlechner and Alexis Maldonado,
**Camera-based Observation of Football Games for Analyzing Multi-agent Activities,**

[C6] Freek Stulp, Michael Isik and Michael Beetz,
**Implicit Coordination in Robotic Teams using Learned Prediction Models,**

[C7] Freek Stulp and Michael Beetz,
**Action Awareness – Enabling Agents to Optimize, Transform, and Coordinate Plans,**
[C8] Armin Müller and Michael Beetz,  
Designing and Implementing a Plan Library for a Simulated Household Robot,  

[C9] Markus Geipel and Michael Beetz,  
Learning to shoot goals, Analysing the Learning Process and the Resulting Policies,  

[C10] Matthias Wimmer, Freek Stulp, Stephan Tschechne and Bernd Radig,  
Learning Robust Objective Functions for Model Fitting in Image Understanding Applications,  

[C11] 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,  
Towards High-performance Robot Plans with Grounded Action Models: Integrating Learning Mechanisms into Robot Control Languages,  
[C3] Alexandra Kirsch, Michael Schweitzer and Michael Beetz,
Making Robot Learning Controllable: A Case Study in Robot Navigation,

[C4] 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.

[C5] Matthias Wimmer and Bernd Radig,
Adaptive Skin Color Classifier,
Ashraf Aboshosha et al.(Ed.), Proceedings of the first International Conference on Gra-
phics, Vision and Image Processing, Cairo, Egypt, ICGST, Vol. I, 324-327, December
2005.

[C6] Simone Hämmerle, Matthias Wimmer, Bernd Radig and Michael Beetz,
Sensor-based Situated, Individualized, and Personalized Interaction in Smart
Environments,
Armin B. Cremers, Rainer Manthey, Peter Martini and Volker Steinhage(Eds.), INFOR-
MATIK 2005 - Informatik LIVE! Band 1, Beiträge der 35. Jahrestagung der Gesellschaft

[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 Probabili-
stic 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 Stammeyer,
Motion and Episode Models for (Simulated) Football Games: Acquisition, Re-
presentation, and Use,
3rd International Joint Conference on Autonomous Agents & Multi Agent Systems
(AAMAS), 2004.

[C3] Michael Beetz, Alexandra Kirsch and Armin Müller,
RPL-LEARN: Extending an Autonomous Robot Control Language to Perform
Experience-based Learning,
3rd International Joint Conference on Autonomous Agents & Multi Agent Systems
(AAMAS), 2004.
[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,
Proceedings of the Workshop on Methods and Technology for Empirical Evaluation of

[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] Hans Utz, Freek Stulp and Arndt Mühlenfeld,
Sharing Belief in Teams of Heterogeneous Robots,
Daniele Nardi, Martin Riedmiller and Claude Sammut(Eds.), RoboCup-2004: The Eighth

[C10] D. Schröter and M. Beetz,
Acquiring Models of Rectangular Objects for Robot Maps,
Proc. of IEEE International Conference on Robotics and Automation (ICRA), New Or-

[C11] D. Schröter, T. Weber, M. Beetz and B. Radig,
Detection and Classification of Gateways for the Acquisition of Structured
Robot Maps,

[C12] Stefan Fischer, Sven Döring, Matthias Wimmer and Antonia Krummheuer,
Experiences with an Emotional Sales Agent,
Elisabeth André, Laila Dybkjær, Wolfgang Minker and Paul Heisterkamp(Eds.), Affective
Dialogue Systems, Kloster Irsee, Germany, Springer, Lecture Notes in Computer Science,

[PhD1] Robert Hanek,
Fitting Parametric Curve Models to Images Using Local Self-adapting Sepe-
ration Criteria,
Department of Informatics, Technische Universität München, 2004.

[PhD2] Thorsten Schmitt,
Vision-based Probabilistic State Estimation for Cooperating autonomous Ro-
bots,
Department of Informatics, Technische Universität München, 2004.
[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,

[PhD1] Sebastian Buck,
  Experience-Based Control and Coordination of Autonomous Mobile Systems in Dynamic Environments,
  Department of Informatics, Technische Universität München, 2003.

[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,

  Discrete differential-geometry operators for triangulated 2-manifolds,

[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,
[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,
[C9] 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,

[C10] Michael Beetz and Andreas Hofhauser,
Plan-based control for autonomous robot soccer,

[C11] Michael Beetz,
Plan Representation for Robotic Agents,

[C12] 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.

[PhD1] Christoph Hansen,
Modellgetriebene Verfolgung formvariable Objekte in Videobildfolgen,
Department of Informatics, Technische Universität München, 2002.

[J1] 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,

[J2] Michael Beetz,
Plan Management for Robotic Agents,
KI - Künstliche Intelligenz; Special Issue on Planning and Scheduling, 15(2): 12-17, 2001.

[J3] Michael Beetz,
Structured Reactive Controllers,

[C1] Thorsten Schmitt, Robert Hanek, Sebastian Buck and Michael Beetz,
Cooperative Probabilistic State Estimation for Vision-based Autonomous Mobile Robots,
[C2] Thorsten Schmitt, Robert Hanek, Sebastian Buck and Michael Beetz, 
Cooperative Probabilistic State Estimation for Vision-based Autonomous Soccer Robots, 

[C3] Thorsten Schmitt, Robert Hanek, Sebastian Buck and Michael Beetz, 
Cooperative Probabilistic State Estimation for Vision-based Autonomous Soccer Robots, 

[C4] Sebastian Buck, Michael Beetz and Thorsten Schmitt, 
Planning and Executing Joint Navigation Tasks in Autonomous Robot Soccer, 
5th International Workshop on RoboCup (Robot World Cup Soccer Games and Conferences), 2001.

[C5] Sebastian Buck, U. Weber, Michael Beetz and Thorsten Schmitt, 
Multi Robot Path Planning for Dynamic Environments: A case study, 

[C6] Thorsten Schmitt, Sebastian Buck and Michael Beetz, 
AGILO RoboCuppers 2001: Utility- and Plan-based Action Selection based on Probabilistically Estimated Game Situations, 
P. Stone, T. Balch and G. Kraetzschmar(Eds.), 5th International Workshop on RoboCup (Robot World Cup Soccer Games and Conferences), Springer Verlag, Lecture Notes in Computer Science, 2001.

[C7] Michael Beetz and Thorsten Belker, 
Learning Structured Reactive Navigation Plans from Executing MDP policies, 

[C8] Thorsten Belker and Michael Beetz, 
Learning to Execute Robot Navigation Plans, 

[C9] Michael Beetz, 
Runtime Plan Adaptation in Structured Reactive Controllers, 

[C10] Jürgen Schumacher and Michael Beetz, 
Ein agentenbasiertes Verfahren zur effizienten Beantwortung von Lieferterminanfragen in einer Supply-Chain, 

[C11] Robert Hanek, 
The Contracting Curve Density Algorithm and its Application to Model-based Image Segmentation, 
[J1] Michael Beetz, Tom Arbuckle, Thorsten Belker, Maren Bennewitz, Armin Cremers, Dirk Hähnel and Dirk Schulz, 
Enabling Autonomous Robots to Perform Complex Tasks, 
KI - Künstliche Intelligenz; Special Issue on Autonomous Robots, 2000.

[J2] Sebastian Thrun, Michael Beetz, Maren Bennewitz, Armin Cremers, Frank Dellaert, Dieter Fox, Dirk Hähnel, Charles Rosenberg, Nicholas Roy, Jamieson Schulte and Dirk Schulz, 
Probabilistic Algorithms and the Interactive Museum Tour-Guide Robot Minerva, 

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

[C1] Robert Hanek and Thorsten Schmitt, 
Vision-Based Localization and Data Fusion in a System of Cooperating Mobile Robots, 

[C2] Robert Hanek, Thorsten Schmitt, Michael Klupsch and Sebastian Buck, 
From Multiple Images to a Consistent View, 

[C3] Sebastian Buck and Martin Riedmiller, 
Learning Situation Dependent Success Rates Of Actions In A RoboCup Scenario, 
Pacific Rim International Conference on Artificial Intelligence, 809, 2000.

[C4] Sebastian Buck, Robert Hanek, Michael Klupsch and Thorsten Schmitt, 
Agilo Robocuppers: RoboCup Team Description, 

[C5] Rainer Malaka and Sebastian Buck, 
Solving Nonlinear Optimization Problems Using Networks Of Spiking Neurons, 

[C6] Michael Beetz and Thorsten Belker, 
Environment and Task Adaptation for Robotic Agents, 

[C7] Michael Beetz and Thorsten Belker, 
Learning Structured Reactive Navigation Plans from Executing MDP Navigation Policies, 
[C8] 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,

[C9] Michael Beetz and Henrik Grosskreutz,
Probabilistic Hybrid Action Models for Predicting Concurrent Percept-driven Robot Behavior,

[C10] Michael Beetz,
Runtime Plan Adaptation in Structured Reactive Controllers,

[PhD1] Christof Ridder,
Interpretation von Videobildfolgen zur Beobachtung artikulärer Bewegung von Personen anhand eines generischen 3D Objektmodells,

[PhD2] Michael Klupsch,
Objektorientierte Daten- und Zeitmodelle für die Echtzeit-Bildfolgenauswertung,

[PhD3] Michael Beetz,
Plan-based Control of Robotic Agents,
University of Bonn, 2000.

[C1] Thorsten Bandlow, Michael Klupsch, Robert Hanek and Thorsten Schmitt,
Fast Image Segmentation, Object Recognition and Localization in a RoboCup Scenario,

[C2] Thorsten Bandlow, Michael Klupsch, Robert Hanek and Thorsten Schmitt,
Agilo RoboCuppers: RoboCup Team Description,

[C3] Tom Arbuckle and Michael Beetz,
Controlling Image Processing: Providing Extensible, Run-time Configurable Functionality on Autonomous Robots,

[C4] Michael Beetz and Thorsten Belker,
Experience- and Model-based Transformational Learning of Symbolic Behavior Specifications,


[C5] Michael Beetz and Maren Bennewitz,
Planning, Scheduling, and Plan Execution for Autonomous Robot Office Couriers,

[C6] Michael Beetz, Tom Arbuckle, Armin Cremers and Markus Mann,
Transparent, Flexible, and Resource-adaptive Image Processing for Autonomous Service Robots,

[C7] 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,

[PhD1] Stefan Lanser,
Modellbasierte Lokalisation gestützt auf monokulare Videobilder,
Technische Universität München, 1997.

[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,**

[C1] R. Bertelsmeier and Bernd Radig,
   **Kontextunterstützte Analyse von Szenen mit bewegten Objekten.**