


[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, Nasir, 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.


Computer Vision Group Munich  
List of Publications

[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*,  

[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, Bodenmuller, Tim, Suppa and Michael,  
*Combining object modeling and recognition for active scene exploration*,  

[C8] Rink, Christian, Marton, Zoltan-Csaba, Seth, Daniel, Bodenmuller, 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*,  


[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, Nico Blodow, 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 Mar-
ton, Ryohei Ueda, Kei Okada and Michael Beetz,
Segmentation of Textured and Textureless Objects through Interactive Per-
ception,
RSS Workshop on Robots in Clutter: Manipulation, Perception and Navigation in Human
Environments, Sydney, Australia, July 9–13 2012.

[C22] Moritz Tenorth and Michael Beetz,
A Unified Representation for Reasoning about Robot Actions, Processes, and
their Effects on Objects,
2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vila-
moura, Portugal, October, 7–12 2012.

[C23] Daniel Nyga and Michael Beetz,
Everything Robots Always Wanted to Know about Housework (But were
afraid to ask),
2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vila-
moura, Portugal, October, 7–12 2012.

[C24] Dejan Pangercic, Moritz Tenorth, Benjamin Pitzer and Michael Beetz,
Semantic Object Maps for Robotic Housework - Representation, Acquisition
and Use,
2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vila-
moura, Portugal, October, 7–12 2012.

[C25] Alexis Maldonado, Humberto Alvarez-Heredia and Michael Beetz,
Improving robot manipulation through fingertip perception,
IEEE International Conference on Intelligent Robots and Systems (IROS), Vilamoura,
Algarve, Portugal, October 7–11 2012.
[C26] Lucian Cosmin Goron, Zoltan Csaba Marton, Gheorghe Laiza and Michael Beetz,  
Segmenting Cylindrical and Box-like Objects in Cluttered 3D Scenes,  
7th German Conference on Robotics (ROBOTIK), Munich, Germany, May 2012.

[C27] 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  
(ICAANN), Lausanne, Switzerland, 2012.

[C28] 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.

[C29] Lars Kunze, Andrei Haidu and Michael Beetz,  
Making Virtual Pancakes — Acquiring and Analyzing Data of Everyday Manipulation 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.

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.

[C31] Vladyslav Usenko, Florian Seidel, Zoltan-Csaba Marton and Dejan Pangerć Michael Beetz,  
Furniture Classification using WWW CAD Models,  
IROS12 Workshop on Active Semantic Perception (ASP12), Vilamoura, Portugal, October 7 2012.

[C32] Moritz Tenorth, Koji Kamei, Satoru Satake, Takahiro Miyashita and Norihiro Hagita,  
Towards a Networked Robot Architecture for Distributed Task Execution and Knowledge Exchange,  
Third International Workshop on Standards and Common Platforms for Robotics (SCPR 2012), in conjunction with SIMPAR 2012, Tsukuba, Japan, November 5 2012.

[PhD1] Dominik Jain,  
Probabilistic Cognition for Technical Systems: Statistical Relational Models for High-Level Knowledge Representation, Learning and Reasoning,  
Technische Universität München, 2012.

[PhD2] Ulrich Klank,  
Everyday Perception for Mobile Manipulation in Human Environments,  
Technische Universität München, 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 Pangerćic 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 Pangerćic, Nico Blodow and Michael Beetz, 
Combined 2D-3D Categorization and Classification for Multimodal Perception Systems, 

[C1] Federico Ruiz-Úgalde, Gordon Cheng and Michael Beetz, 
Fast adaptation for effect-aware pushing, 

[C2] Sebastian Albrecht, Karinne Ramirez-Amaro, Federico Ruiz-Úgalde, 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**, 

[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 Rühr 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 Vocabularry 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 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] 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,
Künstliche Intelligenz, 24: 2010.

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

[J11] M. F. Zaeh, W. Roesel, A. Bannat, T. Bautze, M. Beetz, J. Blume, K. Diepold, C. Ertelt,
A. Schuboe, K. Shea, I. Stork genannt Wersborg, S. Stork, W. Tekouo, F. Wallhoff
and M. Wiesbeck,
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,
[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 Traces,  
IEEE/RSJ International Conference on Intelligent Robotics 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 (RoMan), 2010.

[C16] Federico Ruiz-Ugalde, Gordon Cheng and Michael Beetz,  
Prediction of action outcomes using an object model,  

[C17] Alexis Maldonado, Ulrich Klank and Michael Beetz,  
Robotic grasping of unmodeled objects using time-of-flight range data and finger torque information,  

[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, Springer, 151-159, September 21-24 2010.

[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 Michael Beetz,  
Hierarchical Object Geometric Categorization and Appearance Classification for Mobile Manipulation,  

[C22] Nico Blodow, Dominik Jain, Zoltan-Csaba Marton and Michael Beetz,  
Perception and Probabilistic Anchoring for Dynamic World State Logging,  
[C23] Moritz Tenorth, Lars Kunze, Dominik Jain and Michael Beetz, 
KNOWROB-MAP – Knowledge-Linked Semantic Object Maps, 

[C24] Séverin Lemaignan, Raquel Ros, Lorenz Mösenlechner, Rachid Alami and Michael Beetz, 
ORO, a knowledge management module for cognitive architectures in robotics, 

[C25] C. Mayer, S. Sosnowski, K. Kühnlenz and B. Radig, 
Towards robotic facial mimicry: system development and evaluation, 

[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.

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, 
Deliverable D5.2: The RoboEarth Language – Language Specification, 

[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, 
**AASpOAGMo: Automated Sports Game Analysis Models,**

[J3] Alexandra Kirsch, 
**Robot Learning Language – Integrating Programming and Learning for Cognitive Systems,**

[J4] Radu Bogdan Rusu, Jan Bandouch, Franziska Meier, Irfan Essa and Michael Beetz, 
**Human Action Recognition using Global Point Feature Histograms and Action Shapes,**
*Advanced Robotics journal, Robotics Society of Japan (RSJ), 2009.*

[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,**
*9th IEEE-RAS International Conference on Humanoid Robots, 2009.*

[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,
[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*,
*IEEE Int. Workshop on Human-Computer Interaction (HCI)*. In conjunction with *ICCV*2009, 2009.

[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 Image Sequences (THEMIS)*, in conjunction with *ICCV*2009, 2009.

[C31] Michael Beetz, Jan Bandouch, Dominik Jain and Moritz Tenorth,
*Towards Automated Models of Activities of Daily Life*,

[C32] Dominik Jain, Paul Maier and Gregor Wylezich,
*Markov Logic as a Modelling Language for Weighted Constraint Satisfaction Problems*,
*Eighth International Workshop on Constraint Modelling and Reformulation*, in conjunction with *CP*2009, 2009.

[C33] Andreas Leha, Dejan Pangeric, 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, 

[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 Mösenlechner,
An Integrated Planning and Learning Framework for Human-Robot Interaction,
4th Workshop on Planning and Plan Execution for Real-World Systems (held in conjuction 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, Pa-

[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,**  

[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.


[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-Maschine-Schnittstelle, 

[C18] Björn Schuller, Matthias Wimmer, Dejan Arsic, Gerhard Rigoll and Bernd Radig, 
Audiovisual Behavior Modeling by Combined Feature Spaces, 
[C19] Matthias Wimmer, Sylvia Pietzsch, Freek Stulp and Bernd Radig,
Learning Robust Objective Functions with Application to Face Model Fitting,

[C20] Matthias Wimmer and Bernd Radig,
Automatically Learning the Objective Function for Model Fitting,

[C21] Matthias Wimmer, Ursula Zucker and Bernd Radig,
Human Capabilities on Video-based Facial Expression Recognition,

[C22] Martin A. Tischler, Christian Peter, Matthias Wimmer and Jörg Voskamp,
Application of emotion recognition methods in automotive research,

[C23] Matthias Wimmer and Bernd Radig,
Initial Pose Estimation for 3D Models Using Learned Objective Functions,

[C24] Matthias Wimmer, Christoph Mayer, Freek Stulp and Bernd Radig,
Estimating Natural Activity by Fitting 3D Models via Learned Objective Functions,

Emotionale Aspekte in Produktbeurteilungen,

[C26] Matthias Wimmer, Freek Stulp and Bernd Radig,
Enabling Users to Guide the Design of Robust Model Fitting Algorithms,
Workshop on Interactive Computer Vision, held in conjunction with ICCV 2007, Rio de Janeiro, Brazil, Omnipress, 28, October 2007.

[PhD1] Freek Stulp,
Tailoring Robot Actions to Task Contexts using Action Models,
Technische Universität München, 2007.

[PhD2] Matthias Wimmer,
Model-based Image Interpretation with Application to Facial Expression Recognition,
Technische Universität München, Institute for Informatics, December 2007.
[J1] Radu Bogdan Rusu,


[J2] Matthias Wimmer and Bernd Radig,


[J3] Matthias Wimmer and Simone Hämmerle,


[C1] Radu Bogdan Rusu, Alexis Maldonado, Michael Beetz, Matthias Kranz, Lorenz Mösenlechner, Paul Holleis and Albrecht Schmidt,


[C2] Matthias Kranz, Radu Bogdan Rusu, Alexis Maldonado, Michael Beetz and Albrecht Schmidt,


[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,


[C5] Michael Beetz, Jan Bandouch, Suat Gedikli, Nico von Hoyningen-Huene, Bernhard Kirchlechner and Alexis Maldonado,


[C6] Freek Stulp, Michael Isik and Michael Beetz,


[C7] Freek Stulp and Michael Beetz,

[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,  
[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 Classificator,  

[C6] 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 Stammeyer,  
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] Hans Utz, Freek Stulp and Arndt Mühlenfeld, 
Sharing Belief in Teams of Heterogeneous Robots, 

[C10] D. Schröter and M. Beetz, 
Acquiring Models of Rectangular Objects for Robot Maps, 

[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, 

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

[PhD2] Thorsten Schmitt, 
Vision-based Probabilistic State Estimation for Cooperating autonomous Robots, 
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,


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


Computer Vision Group Munich

List of Publications

[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 fo 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,**
*The Fourth Robot World Cup Soccer Games and Conferences, RoboCup-2000 Melbourne*,

[C3] Sebastian Buck and Martin Riedmiller, 
**Learning Situation Dependent Success Rates Of Actions In A RoboCup Scenario,**

[C4] Sebastian Buck, Robert Hanek, Michael Klupsch and Thorsten Schmitt, 
**Agilo RoboCuppers: RoboCup Team Description,**
*The Fourth Robot World Cup Soccer Games and Conferences, RoboCup-2000 Melbourne*,
2000.

[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,**
Ferryman(Ed.), *8th International Symposium on Intelligent Robotic Systems, SIRS 2000*,
2000.
[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 artikularer 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] T. Arbuckle and M. Beetz,  
Extensible, Runtime-configurable Image Processing on Robots — the RECIPE system,  

[C6] 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.

[C7] Michael Beetz,  
Structured Reactive Controllers — A computational Model of Everyday Activity,  

[C8] 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] Michael Klupsch,  
Object-Oriented Representation of Time-Varying Data Sequences in Multi-agent Systems,  

[C3] Michael Klupsch, Maximilian Lückenhaus, Christoph Zierl, Ivan Laptev, Thorsten Bandlow, Marc Grimme, Ignaz Kellerer and Fabian Schwarzner,  
*Agilo RoboCuppers: RoboCup Team Description*,  

[C4] Tom Arbuckle and Michael Beetz,  
RECIPE - A System for Building Extensible, Run-time Configurable, Image Processing Systems,  
[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,**