

Curriculum Vitae

Maren Bennewitz

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Work Address

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Personal Record

Date of birth: June 19, 1973
Place of birth: Bonn, Germany
Nationality: German
Family status: Married, two children

Academic Positions

- Associate professor for humanoid robots since 2014
Department of Computer Science, University of Bonn
- Assistant professor (Juniorprofessorin), head of the Humanoid Robots Lab, 2008-2014
Department of Computer Science, University of Freiburg
- Post-doctoral research associate, Humanoid Robots, 2004-2008
headed by Sven Behnke, University of Freiburg
- Ph.D. student and research associate, Autonomous Intelligent Systems, 1999-2004
headed by Wolfram Burgard, University of Freiburg

Education

- Dr. rer.-nat. (Ph.D.), University of Freiburg Germany 06/2004
Computer Science (with distinction, *summa cum laude*)
Title of the thesis: *Mobile Robot Navigation in Dynamic Environments*
1st reviewer: Wolfram Burgard, University of Freiburg
2nd reviewer: Raja Chatila, LAAS-CNRS, Toulouse, France
- Diplom (M.Sc.), University of Bonn Germany 05/1999
Computer science (major) and Economics (minor)

Services in Academic Positions

- Vice rector for IT and Knowledge Transfer, University of Bonn since 2015
- Central gender equality representative (deputy), University of Freiburg 2011-2014
- Gender equality representative, Faculty of Engineering 2008-2014
- Joint organization of a mentoring program for schoolgirls 2013
- Counseling for students of computer science 2000-2004
(Studienfachberatung Informatik Diplom, Master, Bachelor)

Research Visits

- Stanford University, AI Lab 10/2010
- University of Rome, RoCoCo Lab 06/2005
- Carnegie Mellon University, Pittsburgh, Robotics Institute 08/1998, 02/2001, 07/2002

Project Involvements

- Research Unit *Anticipating Human Behavior* 2017-2020
Funded by the German Research Foundation, principle investigator
- EU project Squirrel 2014-2018
Clearing Clutter Bit by Bit
Funded by the European Commission, principal investigator
- EU project ROVINA 2013-2016
Robots for Exploration, Digital Preservation and Visualization of Archaeological Sites
Funded by the European Commission, principle investigator
- DAAD Procope project viNavHuBot 2015-2016
Visual Navigation of Humanoid Robots
Funded by the German Academic Exchange Service, principal investigator
- Cluster of Excellence *BrainLinks – BrainTools* 2012-2017
Funded by the German Research Foundation, principle investigator
- EU project First-MM 2010-2013
Flexible Skill Acquisition and Intuitive Robot Tasking for Mobile Manipulation in the Real World
Funded by the European Commission, principal investigator
- SFB/TR-8 *Spatial Cognition*, Phase III 2011-2014
Funded by the German Research Foundation, principle investigator of A8-[HumanoidSpace]
- SFB/TR-8 *Spatial Cognition*, Phase II 2009-2010
Funded by the German Research Foundation, principle investigator of A8-[HumanoidSpace]
- Research training group *Embedded Microsystems* since 2009
Funded by the German Research Foundation, member and advisor
- Interdisciplinary research initiative *Security and Society* 2008-2012
University of Freiburg, member
- DFG project *Learning Humanoid Robots* 2004-2008
Funded by the German Research Foundation, researcher

- SFB/TR-8 *Spatial Cognition*, Phase I 2003-2006
Funded by the German Research Foundation, researcher
- EU project WebFAIR 2001-2003
Web Access to Commercial Fairs Through Mobile Agents
Funded by the European Commission, researcher
- CMU Project Nursebot *Robotic Assistants for the Elderly*, researcher 2002
- EU Project Tourbot 1999-2001
Interactive Museum Tele-presence through Robotic Avatars
Funded by the European Commission, researcher
- Minerva: Carnegie Mellon's Robotic Tourguide Project, researcher 1998

Awards

- Second place best video award 2012
at the ACM/IEEE International Conference on Human-Robot Interaction (HRI)
- Among the 10 best papers at the European Conference on Mobile Robots (ECMR) 2009
- World champion RoboCup Humanoid League with Team NimRo 2005-2007
- “Wolfgang-Gentner-Nachwuchsförderpreis” 2004
for one of the three best theses of the Faculty of Engineering, University of Freiburg
- Among the 5 best papers at the European Conference on Mobile Robots 2003
- Finalist best student paper award 2002
at the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- Among the 10 best papers 2001
at the International Symposium on Intelligent Robotic Systems (SIRS)
- Second place award “Nachwuchswettbewerb der 4. Dienstleistungstagung” 2001
hosted by the German Federal Ministry of Education and Research (BMBF)
- Among the 10 best papers 2001
at the International Symposium on Intelligent Robotic Systems (SIRS) 2000

Invited Presentations

- ICRA Workshop on Robust Perception, Planning, and Control for Legged Robot Locomotion in Challenging Domains 05/2017
Perception and Motion Planning for Humanoids in 3D Environments
- German-French Winter School on Humanoid and Legged Robots, Toulouse 12/2016
Efficient Humanoid Navigation through Cluttered 3D Environments
- iRobot, Pasadena 10/2016
Navigation and Motion Planning in Human Environments
- Kaercher Cleaning Systems, Future Day 03/2016
Effective Solutions for Perception and Motion Generation of Service Robots in Human Environments
- University of Bremen, Computer Science Institute 09/2015
Humanoid Robots – How do they perceive the environment and plan their motions?

- Workshop on Perception and Planning for Legged Robot Locomotion in Challenging Domains
at the IEEE/RSJ International Conference on Intelligent Robots and Systems 09/2015
Efficient Height Map Learning for Traversability Estimation and Footstep Planning
- University of Bonn 05/2015
Service Robots – How do they perceive the environment and plan their motions?
- French-German-Japanese Conference on Humanoid and Legged Robots 05/2014
Whole-Body Motion Planning and Navigation
This talk was given by my PhD student Felix Burget due to my teaching duties
- Rice University, Houston, Department for Computer Science and Bioengineering 04/2014
Navigation with Humanoids in Human Environments
- University of Konstanz 12/2013
Robots – Our New Companions
- University of Bonn, Computer Science Institute 11/2013
Effective Solutions for Perception, Navigation, and Interaction with Service Robots
- Technical University of Braunschweig, Carl-Friedrich-Gauss-Faculty 09/2013
Effective Solutions for Perception, Navigation, and Interaction with Service Robots
- Center for Art and Media, Karlsruhe 06/2013
Robotics: Where we are and where it's going
- Radboud University of Nijmegen, Artificial Intelligence Department 04/2013
Navigation and Motion Planning Techniques for Humanoids
- Workshop on Humanoid Soccer Robots 11/2012
at the IEEE-RAS International Conference on Humanoid Robots
Search-Based Footstep Planning
This talk was given by my PhD student Armin Hornung due to my teaching duties
- French-German Workshop on Perspectives on Cognitive Interaction & Technology 06/2012
University of Bielefeld, Center of Excellence Cognitive Interaction Technology
in collaboration with the Service Scientifique of the French Embassy in Germany
Humanoid Navigation in Complex Indoor Environments
- University of Bremen, Faculty of Mathematics und Computer Science 05/2012
Multimodal Perception for Navigation and Interaction with Humanoid Robots
- University of Stuttgart, 11/2011
Faculty of Informatics Electrical Engineering and Information Technology
Effective Solutions for Perception, Navigation, and Interaction with Service Robots
- Workshop on Humanoid Service Robot Navigation in Crowded & Dynamic Environments 10/2011
IEEE-RAS International Conference on Humanoid Robots
Integrated Perception and Navigation in Complex Indoor Environments
- Georgia Tech, Atlanta, School of Interactive Computing 09/2011
Techniques for Robots Operating in Human Environments
- University of Stuttgart, 05/2011
Faculty of Informatics, Electrical Engineering and Information Technology
Techniques for Robots Acting in Human Environments
- University of Rome, RoCoCo Lab 03/2011
Motion Planning and Robust Navigation with Humanoids

- Stanford University, AI Lab 10/2010
Humanoid Robot Navigation in Complex Indoor Environments
- Colloquium of the Collaborative Research Center 588 Humanoid Robots 09/2010
at the German Conference on Artificial Intelligence
Position Statement
- Technical University of Darmstadt, Computer Science Department 07/2010
Robust Navigation and Natural Interaction with Humanoid Robots
- University of Linköping, Division of Automatic Control 06/2010
Robust Humanoid Robot Navigation
- Workshop on Visual Mapping and Navigation in Outdoor Environments 05/2009
at the IEEE International Conference on Robotics and Automation
Learning Efficient Policies for Vision-based Navigation
- Technical University of Munich, Computer Science Department 05/2009
Probabilistic Techniques for Natural Human-Robot-Interaction and Robust Navigation
- University of Bonn, Autonomous Intelligent Systems Group 03/2009
Learning Policies for Efficient Vision-based Navigation
- SFB/TR 8 Spatial Cognition Colloquium, University of Bremen & Freiburg 12/2008
Natural Interaction with and Robust Navigation for Humanoid Robots
- International Symposium on Recent Advances in Neuro-Robotics 07/2008
University of Freiburg, Neurology Department
Robust Recognition of Complex Gestures for Natural Human-Robot Interaction
- Workshop on Situation Modeling and Recognition 03/2008
University of Freiburg, Institute for Computer Science
in collaboration with the Intelligent Autonomous Systems Group, Siemens AG Munich
Recognition of Human Gestures for Human-Robot Interaction
- Freiburg Center for Data Analysis and Modeling 02/2008
Navigation of and Interaction with Humanoid Robots
- University of Freiburg, Technical Faculty 12/2007
Interaction with and Navigation of Humanoid Robots
- Technology Forum, 10/2006
Fraunhofer Institute for Manufacturing Engineering and Automation
Visual Localization for Mobile Robots
This talk was given by Dr. Cyrill Stachniss due to the birth of my daughter
- Siemens AG Munich, Intelligent Autonomous Systems Group 05/2006
Metric Localization with Scale-Invariant Visual Features using a Single Camera
- Fraunhofer Institute, Autonomous Intelligent Systems 11/2005
Learning and Utilizing Motion Patterns of People & Enabling a Humanoid Robot to Interact with Multiple Persons
- University of Rome, RoCoCo Lab 06/2005
Multimodal Conversation between a Humanoid Robot and Multiple Persons
- Carnegie Mellon University, Robotics Institute 07/2002
Using EM to Learn Motion Behaviors of Persons with Mobile Robots
- University of Münster 02/2002
Service Robots for the Elderly

Teaching Experience

- Lecturer of *Humanoid Robotics* Summer 2015-2017
- Lecturer of *Cognitive Robotics* (joint teaching) Fall 2015-2016
- Teacher of the lab course on *Humanoid Robots*
Fall 2006, 2011, 2012, 2015-2016, Summer 2013-2017
- Teacher of the seminar on *Humanoid Robots* Fall 2015-2016, Summer 2006-2017
- Lecturer of *Systems I (Operating Systems)* Fall 2012, 2013
- Lecturer of *Introduction to Mobile Robotics* (joint teaching) Summer 2008-2014
- Lecturer of *Foundations of Artificial Intelligence* (joint teaching) Summer 2011, 2013
- Lecturer of *Mobile Robotics 2* (joint teaching) Fall 2010, 2011
- Teacher of the seminar on *Robot Navigation* Fall 2006-2013
- Co-Teacher of the lab course on *Robotics* Fall 2006
- Co-teacher of the seminar on *Multi-Robot Action Planning in Dynamic, Uncertain Environments*
Summer 2005
- Co-teacher of the seminar on *Autonomous Systems* Summer 2004
- Teaching Assistant for *Introduction to Computer Science (Informatik I)* (partially taught)
Fall 2000-2003
- Teaching Assistant for *Foundations of Artificial Intelligence* Summer 2000, 2003
- Teaching Assistant for *Algorithms and Data Structures (Informatik II)* Summer 2001
- Co-teacher of a seminar on *Path Planning for Autonomous Mobile Systems* Fall 2000
- Co-teacher of a seminar on *Probabilistic Methods for Mobile Robots* Summer 2000
- Teaching Assistant for *Autonomous Mobile Systems* (partially taught) Fall 1999
- Co-teacher of a seminar on *Autonomous Mobile Systems* Fall 1999
- Co-teacher of a lab course on *Autonomous Mobile Systems* Fall 1999

Supervised PhD Students

- Abd El-Moniem Bayoumi, funded by the DAAD
Finding and Following Humans in Mobile Service Robotics Applications since 04/2014
- Philipp Bruckschen, funded by the DFG within the Research Unit Anticipating Human Behavior
Foresighted Robot Navigation Using Predicted Human Behavior since 05/2017
- Felix Burget, funded by the DFG within the Cluster of Excellence BrainLinks – BrainTools
Motion Analysis and Motion Generation for Humans and Humanoids since 03/2013
- Philipp Karkowski, funded by the EC projects ROVINA and Squirrel
Real-Time Locomotion for Humanoids in 3D Environments since 10/2014
- Stefan Osswald, funded by the University of Bonn
Navigation in Human Environments since 10/2014
- Peter Regier, funded by the EC project Squirrel
Navigation and Interaction in Cluttered Environments since 10/2014
- Daniel Maier (finished), funded by the DFG research training group Embedded Microsystems
Efficient Navigation Techniques for Humanoid Robots 2010-2015
- Armin Hornung (finished), funded by the DFG within the SFB/TR 8 Spatial Cognition
Humanoid Robot Navigation in Complex Indoor Environments 2009-2014

Supervised Theses

- Ahmed Morsi Abdelbaki, *Place Recognition for Visual SLAM*, Master's thesis, ongoing.
- Shiyuan Bian, *Intermediate Velocities for the Synchronized Holonomic Model*, Master's thesis, ongoing.
- Stephan Fuhrmann, Master's thesis, ongoing.
- Lukas Gesing, Master's thesis, ongoing.
- Thomas Gilles, Master's thesis, ongoing.
- Gerd Mund, *Fast Collision Checking with the Synchronized Holonomic Model*, Bachelor's thesis, ongoing.
- Arindam Roychoudhury, *Nonholonomic Control with Holonomic Preplanning*, Master's thesis, ongoing.
- Ibrahim Shareef, Master's thesis, ongoing.
- Rasha Sheikh, *Appearance-Based Mapping for Humanoid Robots*, Master's thesis, ongoing.
- Katharina Reichel, *A Biochemical Approach to Modeling Learning Mechanisms in Neural Networks*, Master's thesis.
- Elias Khsheibun, *Optimal Coverage Planning with Finite Resources in Crowded Environments*, Master's thesis.
- Aalap Shah, *Bootstrapping Localization Using Depth Information*, Bachelor's thesis.
- Stefan Wrobel, *Vision-Based Self-Calibration of a Humanoid*, Master's thesis.
- Jonas Schlagenhauf, *State Estimation in Cluttered Scenes based on RGBD Data*, Bachelor's thesis.
- Sebastian Böttcher, *Techniques for Clearing Cluttered Environments with Humanoids*, Bachelor's thesis.
- Christian Lutz, *Mapping and Footstep Planning in Cluttered 3D Environments*, Master's thesis.
- Felix Burget, *Whole-Body Motion Planning for Manipulation of Articulated Objects*, Master's thesis.
- Stefan Oßwald, *Techniques for Autonomous Stair Climbing with Humanoid Robots*, Master's thesis, awarded with the VDI-Förderpreis 2012.
- Raphael Schmitt, *Efficient Octree Traversal for Robot Navigation*, Bachelor's thesis.
- Timm Schneevoigt, *Visual Odometry for Humanoid Robots*, Bachelor's thesis.
- Johannes Garimort, *Adaptive Path Planning for Humanoid Robots*, Bachelor's thesis.
- Daniel Maier, *Vision-based Obstacle Avoidance for Mobile Robots*, Master's thesis.
- Jonas Koenemann, *Imitating Human Motions with a Humanoid Robot*, Bachelor's thesis, second place best video award at the ACM/IEEE International Conference on Human-Robot Interaction (HRI).
- Stefan Oßwald, *Reliable Vision-based Navigation with a Humanoid Robot*, Bachelor's thesis.
- Sven Wehner, *Optimizing the Gait of a Humanoid Robot Towards Human-like Walking*, Bachelor's thesis, among the 10 best papers at the European Conference on Mobile Robots (ECMR).
- Armin Hornung, *Learning policies for reliable mobile robot localization*, Master's thesis, awarded with the VDI-Förderpreis 2009.

- Clemens Eppner, *Techniques for Imitation of Manipulative Actions by Robots*, Master's thesis.
- Tobias Axenbeck, *Recognition of Human Gestures from Monocular Images*, Master's thesis.
- Teodora Vatahska, *Feature-based Head Pose Estimation from Images*, Master's thesis.
- Michael Keiser, *Localization and Navigation of Humanoid Robots based on RFID Technology*, Bachelor's thesis.
- Tobias Latzke, *Imitative Reinforcement Learning for Soccer Playing Robots*, Master's thesis.
- Burkard Dümmler, *Cooperative Path Planning*, Master's thesis.

Editorial Services

- Senior Program Committee of the International Joint Conference on Artificial Intelligence (IJCAI), 2017.
- Editor for the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2014-2017.
- Senior Program Committee of the IEEE International Conference on Robotics and Automation (ICRA), 2016.
- Workshop Co-Chair of the IEEE International Conference on Robotics and Automation (ICRA), 2016.
- Area chair for Robotics: Science and Systems (RSS), 2014.
- Editorial Board of the Journal of AI Research (JAIR), since 07/2012.
- Editorial Board of Frontiers in Robotics and AI, 2014-2017.
- Associate Editor for the IEEE-RAS Conference on Humanoid Robots (Humanoids), 2013-2016.
- Associate Editor for the IEEE International Conference on Robotics and Automation (ICRA), 2011-2013, 2017.
- Associate Editor for the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2011-2013.
- Guest editor (together with O. Stasse) of a special issue on “Motion Planning and Navigation with Humanoids” of the International Journal of Humanoid Robotics (IJHR), 2013.
- Associate Editor for the IFAC Symposium on Intelligent Autonomous Vehicles (IAV), 2016.
- Associate Editor for the IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), 2010, 2011, 2013.

Program Committees

- International Conference on Social Robotics (ICSR), 2014.
- Robotics: Science and Systems (RSS), 2007, 2010-2012, 2015.
- International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2012.
- AAAI Symposium on Turn-Taking and Coordination in Human-Machine Interaction, 2014.
- International Conference on Intelligent Autonomous Systems (IAS), 2008, 2012, 2016.
- European Conference on Mobile Robots (ECMR), 2007, 2009, 2013.
- RSS Workshop on Robot Learning and Planning, 2016.

- AAAI Conference on Artificial Intelligence, Student Abstract and Poster Program, 2013.
- Conference of the Cognitive Science Society (CogSci), 2013.
- ECAI Workshop on Machine Learning for Interactive Systems (MLIS), 2012, 2013.
- Joint International Symposium on Robotics (ISR) and German Conference on Robotics (ROBOTIK), 2014.
- German Conference on Artificial Intelligence (KI), 2009-2012.
- German Conference on Artificial Intelligence (KI) Poster and Demo Track, 2012.
- Starting Artificial Intelligence Research Symposium (STAIRS), 2012.
- International Conference on Informatics in Control, Automation and Robotics (ICINCO), 2008, 2009.
- Informatica Feminale (women's summer university), 2010, 2012.

Reviewing for Journals

- International Journal of Humanoids Robotics (IJHR), 2013.
- IEEE Transactions on Robotics (T-RO), 2005-2013.
- Autonomous Robots (AURO), 2007-2012.
- International Journal of Robotics Research (IJRR), 2007-2011.
- IEEE Transactions on Interactive Intelligent Systems, 2013.
- IEEE Transactions on Systems, Man and Cybernetics, 2004, 2011.
- Robotics and Autonomous Systems (RAS), 2004, 2008, 2012.
- Annals of Mathematics and Artificial Intelligence, 2011.
- The Journal of Robotics, 2011.
- Journal of Field Robotics (JFR), 2009.
- Journal of Physiology, Special Issue on Neuro-Robotics, 2009
- IEEE Transactions on Intelligent Transportation Systems (TITS), 2008.
- International Journal of Control, Automation, and Systems (IJCAS), 2006.
- IEEE/ASME Transactions on Mechatronics, 2006.
- Optics Communications, 2005.

Regular Reviewing for Conferences/Workshops

- Robotics: Science and Systems (RSS)
- International Joint Conference on Artificial Intelligence (IJCAI)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE-RAS Conference on Humanoid Robots (Humanoids)
- ACM/IEEE International Conference on Human-Robot Interaction (HRI)
- International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS)
- European Conference on Mobile Robots (ECMR)

- IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)
- International Conference on Intelligent Autonomous Systems (IAS)
- IVAC Symposium on Intelligent Autonomous Vehicles (IAV)
- German Conference on Artificial Intelligence (KI)
- ECAI Workshop on Machine Learning for Interactive Systems (MLIS)
- Joint International Symposium on Robotics (ISR) and German Conference on Robotics (ROBOTIK)

Other Scientific Services

- Reviewer for proposals submitted for funding to the German Research Foundation (DFG)
- Reviewer for projects funded within the European Commission (EC) research programme

PhD Committees

- RWTH Aachen University
- University of Bonn
- University of Bremen
- University of Freiburg
- Technical University of Ilmenau
- KTH Royal Institute of Technology, Stockholm
- University of Toulouse

Organizations of Workshops

- Organizer (jointly with O. Stasse and A. del Prete) of the German-French Winter School on Humanoid and Legged Robots, 2016.
- Organizer (jointly with A. Dragan, S. Shah) of the second workshop on “Women in Robotics” at Robotics: Science and Systems (RSS), 2015.
- Organizer (jointly with M. Zillich, D. Pangercic, J. Piater, and M. Fox) of the Workshop “Robots in Clutter: Perception and Interaction in Clutter” at IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2014.
- Organizer (jointly with J. Pineau, A. Thomaz, and L. Takayama) of the first workshop on “Women in Robotics” at Robotics: Science and Systems (RSS), 2014.
- Organizer (jointly with M. Zillich, J. Piater, M. Fox, and D. Pangercic) of the Workshop “Robots in Clutter: Preparing Robots for the Real World” at Robotics: Science and Systems (RSS), 2013.
- Organizer (jointly with O. Stasse) of the Workshop “Motion Planning and Navigation with Humanoids” at the IEEE International Conference on Robotics & Automation (ICRA), 2013.

Further Activities

- Gender Committee of the IFAC Intelligent Autonomous Vehicles Symposium (IAV), 2016.
- Member of the organization team of the IEEE International Conference on Robotics & Automation (ICRA), career fair co-chair, 2015.
- Lecturer at the “Informatica Feminale” (women’s summer university), 2010.
- Member of RoboCup Team NimbRo (world champion in several competitions), 2005-2007.
- Local organization RoboCup Humanoid League, 2006, 2007.
- Local organization RoboCup German Open, Humanoid League, 2007.
- Child care organization at Robotics: Science and Systems (RSS), 2007.
- Numerous robot demonstrations at open house or girls’ days.
- Robot demonstrations at the Science Days Freiburg, 2001, 2006.
- Robot demonstrations at Hannovermesse (by invitation of SICK AG), 2000-2002.

Publication List

REFEREED JOURNAL/MAGAZINE ARTICLES

- [1] S. Osswald, M. Bennewitz, W. Burgard, and C. Stachniss. Speeding-up robot exploration by exploiting background information. In *IEEE Robotics and Automation Letters (RA-L)*, 2016.
- [2] A. Hornung, S. Oßwald, D. Maier, and M. Bennewitz. Monte Carlo localization for humanoid robot navigation in complex indoor environments. *International Journal of Humanoid Robotics (IJHR)*, 2014.
- [3] A. Hornung, K. M. Wurm, M. Bennewitz, C. Stachniss, and W. Burgard. Octomap: An efficient probabilistic 3D mapping framework based on octrees. *Autonomous Robots*, 2013.
- [4] D. Maier, C. Stachniss, and M. Bennewitz. Vision-based humanoid navigation using self-supervised obstacle detection. *International Journal of Humanoid Robotics (IJHR)*, 2013.
- [5] S. Wehner and M. Bennewitz. Gait optimization of humanoids based on human data. *AUTOMATIKA - Journal for Control, Measurement, Electronics, Computing and Communications*, 2011.
- [6] A. Hornung, M. Bennewitz, and H. Strasdat. Efficient vision-based navigation – Learning about the influence of motion blur. *Autonomous Robots*, 29(2), 2010.
- [7] M. Bennewitz, W. Burgard, G. Cielniak, and S. Thrun. Learning motion patterns of people for compliant robot motion. *International Journal of Robotics Research (IJRR)*, 24(1), 2005.
- [8] M. Bennewitz, W. Burgard, and S. Thrun. Finding and optimizing solvable priority schemes for decoupled path planning techniques for teams of mobile robots. *Robotics and Autonomous Systems*, 41, 2002.
- [9] M. Beetz, T. Arbuckle, T. Belker, M. Bennewitz, W. Burgard, A. B. Cremers, D. Fox, H. Grosskreutz, D. Hähnel, and D. Schulz. Integrated plan-based control of autonomous service robots in human environments. *IEEE Intelligent Systems*, 16, 2001.
- [10] S. Thrun, M. Beetz, M. Bennewitz, W. Burgard, A. B. Cremers, D. Dellaert, D. Fox, D. Hähnel, C. Rosenberg, J. Schulte, and D. Schulz. Probabilistic algorithms and the interactive museum tour-guide robot minerva. *International Journal of Robotics Research (IJRR)*, 19(11):972–999, 2000.
- [11] M. Beetz, T. Arbuckle, T. Belker, M. Bennewitz, A. B. Cremers, D. Hähnel, and D. Schulz. Enabling autonomous robots to perform complex tasks. *Zeitschrift KI mit Schwerpunkt Autonome Mobile Systeme*, 4:5–10, 2000.

BOOK CHAPTERS / COLLECTIONS

- [1] W. Burgard, M. Herbert, and M. Bennewitz. World modeling. In B. Siciliano and O. Khatib, editors, *Handbook of Robotics*. Springer Verlag, second edition, 2016.
- [2] M. Bennewitz, F. Faber, D. Joho, and S. Behnke. Intuitive multimodal interaction with communication robot Fritz. In M. Hackel, editor, *Humanoid Robots, Human-like Machines*. I-Tech Education and Publishing, 2007.
- [3] M. Bennewitz and W. Burgard. Serviceroboter für den Pflegebereich. In A. M. Raem, H. Fenger, G. F. Kolb, T. Nikolaus, L. Pientka, R. Rychlik, and T. Vömel, editors, *Handbuch Geriatrie. Lehrbuch für Praxis und Klinik*. Deutsche Krankenhaus Verlagsgesellschaft mbH, Düsseldorf, 2005. In German.

REFEREED CONFERENCE PUBLICATIONS

- [1] A. Bayoumi, P. Karkowski, and M. Bennewitz. Learning foresighted people following under occlusions. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017. To appear.
- [2] M. Missura, D. Lee, O. von Stryk, and M. Bennewitz. The synchronized holonomic model: A framework for efficient motion generation. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017. To appear.
- [3] P. Regier, M. Missura, and M. Bennewitz. Predicting travel time from path characteristics for wheeled robot navigation. In *Proc. of the European Conference on Mobile Robotics (ECMR)*, 2017. To appear.
- [4] P. Karkowski, S. Oßwald, and M. Bennewitz. Real-time footstep planning in 3d environments. In *Proc. of the IEEE-RAS International Conference on Humanoid Robots (HUMANOIDS)*, 2016.
- [5] F. Burget, M. Bennewitz, and W. Burgard. BI²RRT*: An optimal sampling-based path planning framework for task-constrained mobile manipulation. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2016.
- [6] P. Regier, Stefan Oßwald, P. Karkowski, and M. Bennewitz. Foresighted navigation through cluttered environments. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2016.
- [7] V. Ziparo, D. Calisi, G. Grisetti, J. Sarafin, M. Prosmans, L. van Gool, B. Leibe, M. Di Stefano, L. Petti, W. Burgard, F. Nenci, I. Bogoslavskyi, O. Vysotska, M. Bennewitz, and C. Stachniss. A user perspective on the ROVINA project. In *Conf. Proc. of Heritage and Landscape as Human Values - ICOMOS 18 General Assembly*, 2016.
- [8] P. Karkowski and M. Bennewitz. Real-time footstep planning using a geometric approach. In *Proc. of the IEEE International Conference on Robotics & Automation (ICRA)*, 2016.
- [9] A. Bayoumi and M. Bennewitz. Learning optimal navigation actions for foresighted robot behavior during assistance tasks. In *Proc. of the IEEE International Conference on Robotics & Automation (ICRA)*, 2016.
- [10] J. Koenemann, A. Del Prete, Y. Tassa, E. Todorov, O. Stasse, M. Bennewitz, and N. Mansard. Model-predictive control applied to the HRP-2 humanoid. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2015.
- [11] F. Burget, C. Maurer, W. Burgard, and M. Bennewitz. Parameters for motion strategy analysis of Parkinson’s disease patients. In *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2015.
- [12] F. Burget and M. Bennewitz. Stance selection for humanoid grasping tasks by inverse reachability maps. In *Proc. of the IEEE International Conference on Robotics & Automation (ICRA)*, 2015.
- [13] D. Maier and M. Bennewitz. Whole-body self-calibration via graph-optimization and automatic configuration selection. In *Proc. of the IEEE International Conference on Robotics & Automation (ICRA)*, 2015.
- [14] A. Hornung, S. Boettcher, C. Dornhege, A. Hertle, J. Schlagenhauf, and M. Bennewitz. Mobile manipulation in cluttered environments with humanoids: Integrated perception, task planning, and action execution. In *Proc. of the IEEE-RAS International Conference on Humanoid Robots (HUMANOIDS)*, 2014.

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