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Publications

The SMOOTH-Robot: A Modular, Interactive Service Robot

Krüger, N., Fischer, K., Manoonpong, P., Palinko, O., Bodenhagen, L., Baumann, T., Kjærørum, J., Rano, I., Naik, L., Juel, W. K., Haarslev, F., Ignasov, J., Marchetti, E., Langedijk, R. M., Kollakidou, A., Camillus Jeppesen, K., Heidtmann, C. & Dalgaard, L., 5. Oct 2021, In: *Frontiers in Robotics and AI*. 8, 22 p., 645639.

Enabling robots to adhere to social norms by detecting F-formations

Kollakidou, A., Naik, L., Palinko, O. & Bodenhagen, L., 8. Aug 2021, *2021 30th IEEE International Conference on Robot and Human Interactive Communication, RO-MAN 2021*. IEEE, p. 110-116 (IEEE RO-MAN proceedings).

Multi-modal proactive approaching of humans for human-robot cooperative tasks

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A robotic interface for motivating and educating proper hand sanitization using speech and gaze interaction

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Context-Aware Social Robot Navigation

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SMOOTH Robot: Design for a novel modular welfare robot

Juel, W. K., Haarslev, F., Ramírez, E. R., Marchetti, E., Fischer, K., Shaikh, D., Manoonpong, P., Hauch, C., Bodenhagen, L. & Krüger, N., 1. Apr 2020, In: *Journal of Intelligent and Robotic Systems*. 98, p. 19-37

Integrative social robotics hands-on

Fischer, K., Seibt, J., Rodogno, R., Kirkegård Rasmussen, M., Weiss, A., Bodenhagen, L., Juel, W. K. & Krüger, N., Jan 2020, In: *Interaction Studies*. 21, 1, p. 145-185

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An interactive drink serving social robot: Initial System Implementation

Naik, L., Palinko, O., Kollakidou, A., Bodenhagen, L. & Krüger, N., 2020.

Human-Aware Robot Behavior in Healthcare Facilities

Haarslev, F., Juel, W. K., Kollakidou, A., Krüger, N. & Bodenhagen, L., 2020.

Intention Indication for Human Aware Robot Navigation

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Synthetic Ground Truth for Presegmentation of Known Objects for Effortless Pose Estimation

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Concurrent intramodal learning enhances multisensory responses of symmetric crossmodal learning in robotic audio-visual tracking

Shaikh, D., Bodenhagen, L. & Manoonpong, P., May 2019, In: *Cognitive Systems Research*. 54, p. 138-153

Robot use cases for real needs: A large-scale ethnographic case study

Bodenhagen, L., Fischer, K., Winther, T. S., Langedijk, R. M. & Skjøth, M. M., 2019, In: *Paladyn: Journal of Behavioral Robotics*. 10, 1, p. 193-206

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Simulation Based Behavior for a Welfare Robot

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The SMOOTH Robot: Design for a Novel Modular Welfare Robot

Juel, W. K., Haarslev, F., Fischer, K., Marchetti, E., Shaikh, D., Manoonpong, P., Hauch, C., Bodenhagen, L. & Krüger, N., 21. May 2018.

"I would like to get close to you": Making robot personal space invasion less intrusive with a social gaze cue

Suvei, S-D., Vroon, J., Somoza Sanchez, V. V., Bodenhagen, L., Englebienne, G., Krüger, N. & Evers, V., 2018, *Universal Access in Human-Computer Interaction. Virtual, Augmented, and Intelligent Environments - 12th International Conference, UAHCI 2018, Held as Part of HCI International 2018, Proceedings*. Antona, M. & Stephanidis, C. (eds.). Springer, p. 366-385 (Lecture Notes in Computer Science, Vol. 10908).

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Robots for elderly care institutions

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Robots for Elderly Care Institutions: How They May Affect Elderly Care

Juel, W. K., Krüger, N. & Bodenhagen, L., 2018, *Envisioning Robots in Society – Power, Politics, and Public Space: Proceedings of Robophilosophy 2018 / TRANSOR 2018*. Coeckelbergh, M., Loh, J., Funk, M., Seibt, J. & Nørskov, M. (eds.). IOS Press, p. 221-230 (Frontiers in Artificial Intelligence and Applications, Vol. 311).

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Suvei, S-D., Haarslev, F., Bodenhagen, L. & Krüger, N., 2018, *Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. Treméau, A., Imai, F. & Braz, J. (eds.). SCITEPRESS Digital Library, Vol. 4. p. 166-173

Towards A Robotic Assistant for Care-givers

Bodenhagen, L., Halgaard Gotfredsen, L., Juel, W. K., Ungermann Fredskild, T. & Wendlandt, R., 2018.

Towards Crossmodal Learning for Smooth Multimodal Attention Orientation

Haarslev, F., Docherty, D., Suvei, S-D., Juel, W. K., Bodenhagen, L., Shaikh, D., Krüger, N. & Manoonpong, P., 2018, *Social Robotics: Proceedings of the 10th International Conference, ICSR 2018*. Ge, S. S., Cabibihan, J-J., A. Salichs, M., Broadbent, E., He, H., R. Wagner, A. & Castro-González, Á. (eds.). Springer, p. 318-328 (Lecture Notes in Computer Science, Vol. 11357). (Lecture Notes in Artificial Intelligence, Vol. 11357).

Timing of Multimodal Robot Behaviors during Human-Robot Collaboration

Jensen, L. C., Fischer, K., Suvei, S-D. & Bodenhagen, L., 8. Dec 2017, *Proceedings of the 26th IEEE International Symposium on Robot and Human Interactive Communication: Human-Robot Collaboration and Human Assistance for an Improved Quality of Life*. IEEE, p. 1061-1066 (IEEE RO-MAN proceedings, Vol. 2017).

Applying Peg-in-Hole Actions with a Service Robot

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Multisensory guidance of goal-oriented behaviour of legged robots

Shaikh, D., Manoonpong, P., Tuxworth, G. & Bodenhagen, L., 2017, *Human-centric Robotics: Proceedings of the 20th International Conference on CLAWAR 2017*. Silva, M. F., Virk, G. S., Tokhi, M. O., Malheiro, B., Ferreira, P. & Guedes, P. (eds.). World Scientific, p. 97-105

Socially Acceptable Behaviour for Robots Approaching Humans using an Adaptable Personal Space

Camillus Jeppesen, K., Bodenhagen, L. & Krüger, N., 2017, *Proceedings of the 12th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. Braz, J., Richard, P. & Yamaguchi, T. (eds.). SCITEPRESS Digital Library, Vol. 2. p. 116-121

Task and Context Sensitive Gripper Design Learning Using Dynamic Grasp Simulation

Wolniakowski, A., Miatliuk, K., Gosiewski, Z., Bodenhagen, L., Petersen, H. G., Wiuf Schwartz, L. C. M., Jørgensen, J. A., Ellekilde, L-P. & Krüger, N., 2017, In: Journal of Intelligent and Robotic Systems. 87, 1, p. 15-42

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Bodenhagen, L., Fischer, K. & Mareike Weigelin, H., 2017. 6 p.

Unimodal Learning Enhances Crossmodal Learning in Robotic Audio-Visual Tracking

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Using Online Modelled Spatial Constraints for Pose Estimation in an Industrial Setting

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Between Legibility and Contact: The Role of Gaze in Robot Approach

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Stereo and Active-Sensor Data Fusion for Improved Stereo Block Matching

Suvei, S-D., Bodenhagen, L., Kiforenko, L., Christiansen, P., Nyholm Jørgensen, R., Buch, A. G. & Krüger, N., Jul 2016, *Image Analysis and Recognition: 13th International Conference, ICIAR 2016, in Memory of Mohamed Kamel, Póvoa de Varzim, Portugal, July 13-15, 2016, Proceedings*. Campilho, A. & Karray, F. (eds.). Springer, p. 451-461 (Lecture Notes in Computer Science, Vol. 9730).

Optimizing Grippers for Compensating Pose Uncertainties by Dynamic Simulation

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Object detection using categorised 3D edges

Kiforenko, L., Buch, A. G., Bodenhagen, L. & Krüger, N., Feb 2015, *Proc. SPIE: Seventh International Conference on Machine Vision (ICMV 2014)*. Verikas, A., Vuksanovic, B., Radeva, P. & Zhou, J. (eds.). SPIE - International Society for Optical Engineering, (Proceedings of SPIE, the International Society for Optical Engineering, Vol. 9445).

Trinvis og delte strategier for kontrol af velfærdsrobotter

Fischer, K., Bodenhagen, L., Krüger, N., Andersen, M. Ø. & Baumann, T., Feb 2015, In: *Medicoteknik* . 1, 2. årgang , p. 11-13 3 p.

The Role of the Timing between Multimodal Robot Behaviors for Joint Action

Fischer, K., Jensen, L. C., Suvei, S-D. & Bodenhagen, L., 2015.

An Adaptable Robot Vision System Performing Manipulation Actions with Flexible Objects

Bodenhausen, L., Fugl, A. R., Jordt, A., Willatzen, M., Aulkjær Andersen, K., Mølbach Olsen, M., Koch, R., Petersen, H. G. & Krüger, N., Jul 2014, In: *IEEE Transactions on Automation Science and Engineering*. 11, 3, p. 749 - 765

To Beep or Not to Beep is Not the Whole Question

Fischer, K., Jensen, L. C. & Bodenhagen, L., 2014, *Social Robotics: 6th International Conference, ICSR 2014, Sydney, NSW, Australia, October 27-29, 2014. Proceedings*. Beetz, M., Johnston, B. & Williams, M-A. (eds.). Springer, p. 156-165 (Lecture Notes in Computer Science, Vol. 8755).

Probabilistic Manipulations Functions: Statistical Representation of Actions and their Outcomes

Bodenhausen, L., 2013, Syddansk Universitet. Det Naturvidenskabelige Fakultet.

Statistical Identification of Composed Visual Features Indicating High Likelihood of Grasp Success

Thomsen, M. T., Bodenhagen, L. & Krüger, N., 2013, In: *IEEE International Conference on Robotics and Automation*.

Learning Peg-In-Hole Actions with Flexible Objects

Bodenhausen, L., Fugl, A. R., Willatzen, M., Petersen, H. G. & Krüger, N., Feb 2012, *Proceedings of the 4th International Conference on Agents and Artificial Intelligence*. Filipe, J. & Fred, A. (eds.). SCITEPRESS Digital Library, p. 624-631

An Outline for an intelligent System performing Peg-in-Hole Actions with flexible Objects

Jordt, A., Fugl, A. R., Bodenhagen, L., Willatzen, M., Koch, R., Petersen, H. G., Andersen, K. A., Olsen, M. M. & Krüger, N., Dec 2011. 12 p.

Grasp Densities for Grasp Refinement in Industrial Bin Picking

Hupfaut, B., Hahn, H., Bodenhausen, L., Kraft, D., Krüger, N. & Piater, J., 2011.

Grasp Learning by Means of Developing Sensorimotor Schemas and Generic World Knowledge

Krüger, N., Popovic, M., Bodenhausen, L., Kraft, D. & Guerin, F., 2011, *Proceedings of AISB 2011 : Computational Models of Cognitive Development*. Society for the Study of Artificial Intelligence and the Simulation of Behaviour, p. 23-31

Learning Grasp Affordance Densities

Detry, R., Kraft, D., Kroemer, O., Bodenhausen, L., Peters, J., Krüger, N. & Piater, J., 2011, In: *Paladyn. Journal of Behavioral Robotics*. 2, 1, p. 1-17

What a successful grasp tells about the success chances of grasps in its vicinity

Bodenhausen, L., Detry, R., Piater, J. & Krüger, N., 2011, *Development and Learning (ICDL), 2011 IEEE International Conference on*. IEEE, 8 p.

A Strategy for Grasping unknown Objects based on Co-Planarity and Colour Information

Popovic, M., Kraft, D., Bodenhausen, L., Baseski, E., Pugeault, N., Kragic, D., Asfour, T. & Krüger, N., 31. May 2010, In: *Robotics and Autonomous Systems*. 58, 5, p. 551-565

Learning to Grasp Unknown Objects Based on 3D Edge Information

Bodenhausen, L., Kraft, D., Popovic, M., Baseski, E., Hotz, P. E. & Krüger, N., 2010, *IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA2009)*. IEEE, p. 421 - 428

Using Multi-Modal 3D Contours and Their Relations for Vision and Robotics

Baseski, E., Pugeault, N., Kalkan, S., Bodenhausen, L., Piater, J. & Krüger, N., 2010, In: *Journal of Visual Communication and Image Representation*. 21, 8, p. 850-864

Using 3D Contours and Their Relations for Cognitive Vision and Robotics

Baseski, E., Bodenhausen, L., Pugeault, N., Kalkan, S., Piater, J. & Krüger, N., 2009, *Ikke angivet*. International Symposium on Computer and Information Sciences

Activities

2. Transferforum - Wirtschaft und Wissenschaft in der Kiel Region

Leon Bodenhausen (Speaker)

1. Nov 2011

A Robotic Assistant for Care-Givers

Tilia Lind Hasselager (Participant), William Kristian Juel (Participant), Christoph Zickler (Participant), Sascha Witt (Participant) & Leon Bodenhausen (Participant)

Nov 2018

DGR Days 2012

Leon Bodenhausen (Speaker)

6. Sep 2012

European Robotics Forum

Leon Bodenhausen (Speaker)

7. Mar 2012

How can the Care-O-Bot test platform inspire to develop new technology?

Leon Bodenhausen (Guest lecturer)

1. Feb 2018

IROS 2020 Workshop: Robots for Health and Elderly Care

Leon Bodenhagen (Organizer), Oskar Palinko (Organizer), François Michaud (Organizer), Adriana Tapus (Organizer) & Julie Robillard (Organizer)
29. Oct 2020

Robotterne flytter ind: Hvad skal der til?

Leon Bodenhagen (Lecturer)
18. Sep 2016

Smooth Interaction Between Humans and Robots Through Pro-Active Robot Behavior

Leon Bodenhagen (Guest lecturer)
21. May 2018

The SMOOTH Robot: Assisting Care Givers

William Kristian Juel (Participant), Frederik Haarslev (Participant), Emanuela Marchetti (Participant), Norbert Krüger (Participant) & Leon Bodenhagen (Participant)
Nov 2018

Where can robots make a difference for our welfare?

Leon Bodenhagen (Speaker) & Louise Halgaard Gottfredsen (Speaker)
10. Oct 2017