

List of Publications

Prof. Dr. Horst-Michael Gross
Ilmenau University of Technology
Neuroinformatics and Cognitive Robotics Lab
98693 Ilmenau (Germany)
Email: Horst-Michael.Gross@tu-ilmenau.de
(10 November 2022)



Reviewed Journal Papers

- 1) Döring, N., Conde, M., Brandenburg, K.-H., Broll, W., Gross, H.-M., Werner, St., Raake, A. Can Communication Technologies Reduce Loneliness and Social Isolation in Older People? A Scoping Review of Reviews. *International Journal of Environmental Research and Public Health*, vol. 19 (2022) 18, pp. 11310ff, MDPI
- 2) Katzmann, A., Taubmann, O., Ahmad, St., Mühlberg, A., Sühling, M., Gross, H.-M. Explaining clinical decision support systems in medical imaging using cycle-consistent activation maximization. *Neurocomputing*, vol. 458 (2021), pp. 141-156, Elsevier
- 3) Röhner, E., Mayfarth, A., Sternitzke, Ch., Layher, F., Scheidig, A., Gross, H.-M., Matziolis, G., Böhle, S., Sander, K. Mobile robot-based gait training after Total Hip Arthroplasty (THA) improves walking in biomechanical gait analysis. *Journal of Clinical Medicine, Special Issue on Recent Advances in Arthroplasty*, 10 (2021) 11, pp. 2416 ff. (11 pages), MDPI, <https://doi.org/10.3390/jcm10112416>
- 4) Scheidig, A., Schütz, B., Trinh, T.Q., Vorn-dran, A., Mayfarth, A., Sternitzke, Ch., Röhner, E., Gross, H.-M. Robot-assisted gait self-training: assessing the level achieved. *Sensors*, 21 (2021) pp. 6213 ff (15 Pages), MDPI, <https://doi.org/10.3390/s21186213>
- 5) Wengefeld, T., Lewandowski, B., Seichter, D., Pfennig, L., Müller, St., Gross, H.-M. Real-time person orientation estimation and tracking using colored point clouds. *Robotics and Autonomous Systems (RAS)*, vol. 135 (2021) 103665 ff. (15 pages), Elsevier, <https://doi.org/10.1016/j.robot.2020.103665>
- 6) Zhang, Y., Müller, St., Stephan, B., Gross, H.-M., Notni, G. Point Cloud Hand-Object Segmentation using Multi-Modal Imaging with Thermal and Color Data for Safe Robotic Object Handover. *Sensors* vol. 21 (2021), 5676 ff. (16 pages), MDPI, <https://doi.org/10.3390/s21165676>
- 7) Müller, St., Wengefeld, T., Trinh, T. Q., Aganian, D., Eisenbach, M. Gross, H.-M. A Multi-Modal Person Perception Framework for Socially Interactive Mobile Service Robots. *Sensors* vol. 20 (2020) 3, 722, 18 pages; <https://doi.org/10.3390/s20030722>
- 8) Gross, H.-M., Scheidig, A., Debes, K., Einhorn, E., Eisenbach, M., Müller, St., Schmiedel, Th., Trinh, T. Q., Weinrich, Ch., Wengefeld, T., Bley, A., Martin, Ch. ROREAS - Robot Coach for Walking and Orientation Training in Clinical Post-Stroke Rehabilitation: Prototype Implementation and Evaluation in Fields Trials. *Autonomous Robots (AR)*, vol. 41 (2017) 3, pp. 679-698, Springer
- 9) Doering, N., Richter, K., Gross, H.-M., Schroeter, Ch., Mueller, S., Volkhardt, M., Scheidig, A., Debes, K. Robotic Companions for Older People: A Case Study in the Wild. *Studies in Health Technology and Informatics* vol. 219 (2016), pp. 147-152
- 10) Doering, N., Poeschl, S., Gross, H.-M., Bley, A., Martin, Ch., Boehme, H.-J. User-Centered Design and Evaluation of a Mobile Shopping Robot. *Int. Journal of Social Robotics (JSR)*, vol. 7 (2015), pp. 203-225
- 11) Einhorn, E., Gross, H.-M. Generic NDT Mapping in Dynamic Environments and its Application for Lifelong SLAM. *Robotics and Autonomous Sy-*

- stems (RAS)*, vol. 69 (2015), pp. 28-39
- 12) **Vollmer, Ch., Hellbach, S., Eggert, J., Gross, H.-M.** Sparse Coding of Human Motion Trajectories with Non-Negative Matrix Factorization. *Neurocomputing (NC)* vol. 124 (2014), pp. 22-32
 - 13) **Kirstein, St., Wersing, H., Gross, H.-M., Körner, E.** A Life-Long Learning Vector Quantization Approach for Interactive Learning of Multiple Categories. *Neural Networks (NN)* vol. 28 (2012), pp. 90-105
 - 14) **Einhorn, E., Schröter, Ch., Gross, H.-M.** Attention-Driven Monocular Scene Reconstruction for Obstacle Detection, Robot Navigation and Map Building. *Robotics and Autonomous Systems (RAS)*, vol. 59 (2011) 5, pp. 296-309, Elsevier
 - 15) **Poeschl, S., Doering, N., Gross, H.-M., Bley, A., Martin, Ch., Boehme, H.-J.** Roboter-Gestuetzte Artikelsuche im Baumarkt. *Zeitschrift fuer Evaluation (ZfEv)*, vol. 10 (2011) 1, pp. 99-132
 - 16) **Barrois, B., Konrad, M., Woehler, Ch., Gross, H.-M.** Resolving Stereo Matching Errors due to Repetitive Structures Using Model Information. *Pattern Recognition Letters (PRL)*, vol. 31, Issue 12 (2010), pp. 1683-1692, Elsevier
 - 17) **Martin, Ch., Steege, F.-F., Gross, H.-M.** Estimation of Pointing Poses for Visually Instructing Mobile Robots under Real World Conditions. *Robotics and Autonomous Systems (RAS)*, vol. 58 (2010) 2, pp. 174-185, Elsevier
 - 18) **Arras, K., Burgard, W., Gross, H.-M.** Special Issue of Selected Papers from the 2007 European Conference on Mobile Robots. *Robotics and Autonomous Systems (RAS)*, vol. 58 (2010) 2, pp. 131-132, Elsevier
 - 19) **Hellbach, S., Eggert, J., Koerner, E., Gross, H.-M.** Experimental Evaluation of Approaches for Long Term Prediction of Human Movement Trajectories. *Australian Journal of Intelligent Information Processing Systems (AJIIPS)*, vol. 10 (2009) 3
 - 20) **Kirstein, St., Denecke, A., Hasler, St., Wersing, H., Gross, H.-M., Koerner, E.** A Vision Architecture for Unconstrained and Incremental Learning of Multiple Categories. in *Memetic Computing (MC)*, vol. 1 (2009), 4, pp. 291-304
 - 21) **Woehler, Chr., d'Angelo, P., Krueger, L., Kuhl, A., Gross, H.-M.** Monocular 3D Scene Reconstruction at Absolute Scale. *ISPRS Journal of Photogrammetry and Remote Sensing (ISPRS)*, vol. 64 (2009), 6, pp. 529-540, Elsevier 2009
 - 22) **Richarz, J., Scheidig, A., Martin, Ch., Mueller, St., Gross, H.-M.** A Monocular Pointing Pose Estimator for Gestural Instruction of a Mobile Robot *Int. Journal of Advanced Robotic Systems (IJARS)*, vol. 4, No. 1 (2007), pp. 139-150
 - 23) **Gross, H.-M.** Learning and Self-Organization of Behavior - Service. *Kuenstliche Intelligenz (KI)*, vol. 3 (2006), pp. 43-44, BoettcherIT Verlag, Bremen
 - 24) **Martin, Ch., Schaffernicht, E., Scheidig, A., Gross, H.-M.** Multi-Modal Sensor Fusion Using a Probabilistic Aggregation Scheme for People Detection and Tracking. *Robotics and Autonomous Systems (RAS)*, vol. 54 (2006) 9, pp. 721-728, Elsevier ScienceDirect
 - 25) **Scheidig, A., Mueller, St., Gross, H.-M.** User-Adaptive Interaction with Social Service Robots. *Kuenstliche Intelligenz (KI)*, vol. 3 (2006), pp. 31-34, BoettcherIT Verlag, Bremen
 - 26) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** A Multi-Modal System for Tracking and Analyzing Faces on a Mobile Robot. *Robotics and Autonomous Systems (RAS)*, vol. 48 (2004), pp. 31-40, Elsevier Science
 - 27) **Boehme, H.-J., Wilhelm, T., Key, J., Schauer, C., Schroeter, Chr., Gross, H.-M., Hempel, T.** An Approach to Multi-Modal Human-Machine Interaction for Intelligent Service Robots. *Robotics and Autonomous Systems (RAS)*, vol. 44 (2003), pp. 83-96, Elsevier Science
 - 28) **Stephan, V., Gross, H.-M.** Visuomotor Anticipation - A Powerful Approach to Behavior-Driven Perception. *Kuenstliche Intelligenz (KI)*, vol. 2 (2003), pp. 12-17
 - 29) **Stephan, V., Debes, K., Gross, H.-M., Wintrich, F., Wintrich, H.** A New Control Scheme for Combustion Processes Using Reinforcement Learning Based on Neural Networks. *Int. Journal on Computational Intelligence and Applications (IJCIA)*, vol. 1 (2001) 2, pp. 121-136, Imperial College Press 2001
 - 30) **Corradini, A., Boehme, H.-J., Gross, H.-M.** A Hybrid Stochastic-Connectionist Approach to Gesture Recognition. *Int. Journal on Artificial Intelligence Tools (IJAIT)*, vol.9 (2000), no. 2, pp. 177-204
 - 31) **Gross, H.-M., Boehme, H.-J., Key, J., Wilhelm, T.** The PERSES Project - A Vision-Based Interactive Mobile Shopping Assistant. *Kuenstliche Intelligenz (KI)*, vol. 4 (2000), pp. 34-36
 - 32) **Gross, H.-M., Heinze, A., Seiler, T., Stephan, V.** Generative Character of Perception: A Neural Architecture for Sensorimotor Anticipation. *Neural Networks, 1999 Special Issue "Organisation of Computation in Brain-like Systems"* (NN), vol. 12 (1999), pp. 1101-1129
 - 33) **Thust, S., Pomierski, T., Schade, H.-P., Gross, H.-M.** Automatische Farbkorrektur fuer Film, Video und Photo. *Fernseh- und Kino-Technik (FKTG)*, vol. 51 (1997), no. 3, pp. 589-592 [A]
 - 34) **Hamker, F.-H., Gross, H.-M.** Region Finding for Attention Control in Consideration of Subgoals. *Neural Network World, International Journal on Neural and Mass-Parallel Computing and Information Systems (NNW)*, vol. 6 (1996), no. 3, pp. 305-313 [5, E]

- 35) **Gross, H.-M., Boehme, H.-J., Debes, K.** A Neural Network Hierarchy for Data and Knowledge Controlled Selective Visual Attention. *Chinese Journal of Biomedical Engineering (CJBME)*, vol. 4 (1994) pp. 363-368
- 36) **Schwind, J., Gross, H.-M.** Verfahren zur online-Minimierung von Lidschlag- und vertikalen Augenbewegungsartefakten im EEG. *EEG-EMG Zeitschrift fuer Elektroenzephalographie, Elektromyographie und verwandte Gebiete*, vol. 19 (1988), pp. 96-100

Reviewed International Conference and Workshop Papers

- 1) **Seichter, D., Langer, P., Wengefeld, T., Lewandowski, B., Hoechemer, D., Gross, H.-M.** Efficient and Robust Semantic Mapping for Indoor Environments. in: *IEEE Int. Conf. on Robotics and Automation (ICRA), Philadelphia, USA*, pp. 9221-9227, IEEE 2022
- 2) **Seichter, Fishedick, S.B. Söhnke, B.F., Köhler, M., Gross, H.-M.** Efficient Multi-Task RGB-D Scene Analysis for Indoor Environments. *IEEE Int. Joint Conf. on Neural Networks (IJCNN), Padua, Italy*, pp. 1-10, IEEE 2022
- 3) **Stephan, B., Aganian, D., Hinneburg, L., Eisenbach, M., Müller, St., Gross, H.-M.** On the Importance of Label Encoding and Uncertainty Estimation for Robotic Grasp Detection in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Kyoto, Japan*, pp. 4781-88, IEEE 2022
- 4) **Wengefeld, T., Schütz, B., Girdziunaite, G., Scheidig, A., Gross, H.-M.** The MORPHIA Project: First Results of a Long-Term User Study in an Elderly Care Scenario from Robotic Point of View. in: *Int. Symposium on Robotics (ISR Europe), Munich, Germany*, pp. 1-8, VDE
- 5) **Aganian, D., Eisenbach, M., Wagner, J., Seichter, D., Gross, H.-M.** Revisiting Loss Functions for Person Re-identification. in: *Int. Conf. on Artificial Neural Networks (ICANN), Bratislava*, pp. 30-42, Springer 2021
- 6) **Balada, Ch., Eisenbach, M., Gross, H.-M.** Evaluation of Transfer Learning for Visual Road Condition Assessment. in: *Int. Conf. on Artificial Neural Networks (ICANN), Bratislava*, pp. 540-551, Springer 2021
- 7) **Döring, N., Mikhailova, V., Brandenburg, K.-H., Broll, W., Gross, H.-M., Werner, St., Raake, A.** Saying "Hi" to Grandma in Nine Different Ways: Established and Innovative Communication Media in the Grandparent-Grandchild Relationship. in: *American Psychological Association's conference on Technology, Mind & Society*, 2021
- 8) **Eisenbach, M., Aganian, D., Köhler, M., Stephan, B., Schroeter, Chr., Gross, H.-M.** Visual Scene Understanding for Enabling Situation-Aware Cobots. in: *IEEE Int. Conf. on Automation Science and Engineering (CASE)*, IEEE 2021
- 9) **Fischer, K., Simon, M., Oelsner, F., Milz, St., Gross, H.-M., Maeder, P.** StickyPillars: Robust and Efficient Feature Matching on Point Clouds using Graph Neural Networks. in: *IEEE Int. Conf. on Computer Vision and Pattern Recognition (CVPR)*, pp. 313-323, IEEE 2021
- 10) **Müller, St., Stephan, B., Gross, H.-M.** MDP-based Motion Planning for Grasping in Dynamic Szenarios. in: *Europ. Conf. on Mobile Robotics (ECMR), Bonn, Germany*, 8 pages, 2021, IEEE 2021
- 11) **Seichter, D., Köhler, M., Lewandowski, B., Wengefeld, T., Gross, H.-M.** Efficient RGB-D Semantic Segmentation for Indoor Scene Analysis. in: *IEEE Int. Conf. on Robotics and Automation (ICRA), Xian, China*, pp. 13525-13531, IEEE 2021
- 12) **Stricker, R., Aganian, D., Sesselmann, M., Seichter, D., Engelhardt, M., Spielhofer, R., Hahn, M., Hautz, A., Debes, K., Gross, H.-M.** Road Surface Segmentation - Pixel Perfect Distress and Object Detection for Road Assessment. in: *IEEE Int. Conf. on Automation Science and Engineering (CASE)*, pp. 1789-1796, IEEE 2021
- 13) **Schnuerer, Th., Probst, M., Gross, H.-M.** Relational Concepts in Deep Reinforcement Learning: Emergence and Representation. in: *Int. Workshop "Concepts in Action: Representation, Learning, and Application" (CARLA), Bolzano, Italy*, 3 pages, OpenReview.Net 2020
- 14) **Katzmann, A. Muehlberg, A., Suehling, M., Noerenberg, D., Holch, J. W., Gross, H.-M.** Deep Random Forests for Small Sample Size Prediction with Medical Imaging Data. in: *Int. Symposium on Biomedical Imaging (ISBI), Iowa City, USA*, pp.1543-47, IEEE 2020
- 15) **Lembach, J., Stricker, R., Gross, H.-M.** Efficient Implementation of Regional Mutual Information for the Registration of Road Images. in: *Int. Conf. on Image Processing Theory, Tools and Applications (IPTA), Paris, France*, 6 pages, IEEE 2020
- 16) **Lewandowski, B., Wengefeld, T. Mueller, S., Jenny, M., Glende, S., Schroeter, Ch., Bley, A., Gross, H.-M.** Socially Compliant Human-Robot Interaction for Autonomous Scanning Tasks in Supermarket Environments. in: *IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Naples, Italy*, pp. 363-370, IEEE 2020
- 17) **Seichter, D., Lewandowski, B., Hoechemer, D., Wengefeld, T., Gross, H.-M.** Multi-Task Deep Learning for Depth-based Person Perception in Mobile Robotics. in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Las Vegas,*

- USA, pp. 10497-10504, IEEE 2020
- 18) **Trinh, T. Q., Vorndran, A., Schuetz, B., Jaeschke, B., Mayfarth, A., Scheidig, A., Gross, H.-M.** Autonomous Mobile Gait Training Robot for Orthopedic Rehabilitation in a Clinical Environment. in: *Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Naples, Italy*, pp. 580-587, IEEE 2020
 - 19) **Wengefeld, T., Hoechemer, D., Lewandowski, B., Koehler, M., Beer, M., Gross, H.-M.** A Laser Projection System for Robot Intention Communication and Human Robot Interaction. in: *Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Naples, Italy*, pp. 259-265, IEEE 2020
 - 20) **Eisenbach, M., Stricker, R., Sesselmann, M., Seichter, D., Gross, H.-M.** Enhancing the Quality of Visual Road Condition Assessment by Deep Learning. in: *World Road Congress 2019, Abu Dhabi, UAE*, 13 pages, 2019
 - 21) **Gross, H.-M., Scheidig, A., Mueller, St., Schuetz, B., Fricke, Ch., Meyer, S.** Living with a Mobile Companion Robot in your Own Apartment - Final Implementation and Results of a 20-Weeks Field Study with 20 Seniors. in: *IEEE Int. Conf. on Robotics and Automation (ICRA), Montreal, Canada*, pp. 2253-2259, IEEE 2019
 - 22) **Katzmann, A. Muehlberg, A., Suehling, M., Noerenberg, D., Gross, H.-M.** Deep Meta-memory - A Generic Framework for Stabilized One-Shot Confidence Estimation in Deep Neural Networks and its Application on Colorectal Cancer Liver Metastases Growth Prediction. in: *IEEE Int. Symposium on Biomedical Imaging (ISBI)*, pp. 1298-1302, IEEE 2019
 - 23) **Katzmann, A., Muehlberg, A., Suehling, M., Noerenberg, D., Maurus, St., Holch, J. W., Heinemann, V., Gross, H.-M.** Computed Tomography Image-Based Deep Survival Regression for Metastatic Colorectal Cancer Using a Non-proportional Hazards Model. in: *Predictive Intelligence in Medicine (PRIME), Shenzhen, China*, LNCS 11843, pp. 73-80, Springer 2019
 - 24) **Lewandowski, B., Liebner, J., Wengefeld, T., Mueller, St., Gross, H.-M.** A Fast and Robust 3D Person Detector and Posture Estimator for Mobile Robotic Applications. in: *IEEE Int. Conf. on Robotics and Automation (ICRA), Montreal, Canada*, pp. 4869-75, IEEE 2019
 - 25) **Lewandowski, B., Seichter, D., Wengefeld, T., Pfennig, L., Drumm, H., Gross, H.-M.** Deep Orientation: Fast and Robust Upper Body Orientation Estimation for Mobile Robotic Applications. in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Macau*, pp. 441-48, IEEE 2019
 - 26) **Liebner, J., Scheidig, A., Gross, H.-M.** Now I Need Help! Passing Doors and Using Elevators as an Assistance Requiring Robot. in: *Int. Conf. on Social Robotics (ICSR), Madrid, Spain*, pp. 527-37, Springer 2019
 - 27) **Milz, St., Simon, M., Fischer, K., Poepperl, M., Gross, H.-M.** Points2Pix: 3D Point-Cloud to Image Translation Using Conditional GANs. in: *Pattern Recognition (DAGM GCPR), Dortmund, Germany*, LNCS vol. 11824, pp. 387-400, Springer 2019
 - 28) **Mueller, St., Seichter, D., Gross, H.-M.** Cross-Talk Compensation in Low-Cost Resistive Pressure Matrix Sensors. in: *IEEE Int. Conf. on Mechatronics (ICM), Ilmenau, Germany*, pp. 232-237, IEEE 2019
 - 29) **Scheidig, A., Jaeschke, B., Schuetz, B., Trinh, T. Q., Vorndran, A., Mayfarth, A., Gross, H.-M.** May I Keep an Eye on Your Training? Gait Assessment Assisted by a Mobile Robot. in: *IEEE/RAS-EMBS Int. Conf. on Rehabilitation Robotics (ICORR)*, pp. 701-708, IEEE 2019
 - 30) **Schnuerer, Th., Fuchs, St., Eisenbach, M., Gross, H.-M.** Real-Time 3D Pose Estimation from Single Depth Images. in: *Proc. Int. Joint Conf. on Computer Vision, Imaging and Computer Graphics - Theory and Applications (VISAPP), Prague, Czech Republic*, pp. 716-724, 2019
 - 31) **Saemann, T., Amende, K., Milz, St., Gross, H.-M.** Robust Semantic Video Segmentation through Confidence-based Feature Map Warping. in: *ACM Computer Science in Cars Symposium (CSCS), Kaiserslautern, Germany*, 9 pages, ACM 2019
 - 32) **Saemann, T., Amende, K., Milz, St., Gross, H.-M.** Leverage Temporal Consistency for Robust Semantic Video Segmentation. in: *ICML 2019 Workshop on Uncertainty and Robustness in Deep Learning, Long Beach, CA, USA*, 8 pages, 2019
 - 33) **Simon, M., Amende, K., Kraus, A., Honer, J., Saemann, T., Kaulbersch, H., Milz, St., Gross, H.-M.** Complexer YOLO: Real-Time 3D Object Detection and Tracking on Semantic Point Clouds. in: *CVPR-Workshop on Autonomous Driving, Long Beach, USA*, 10 pages, IEEE 2019
 - 34) **Stricker, R., Eisenbach, M., Sesselmann, M., Debes, K., Gross, H.-M.** Improving Visual Road Condition Assessment by Extensive Experiments on the Extended GAPs Dataset. in: *Int. Joint Conf. on Neural Networks (IJCNN), Budapest, Hungary*, paper N-20496, 8 pages, IEEE 2019
 - 35) **van der Grinten, T., Mueller, St., Westhoven, M., Wischniewski, S., Scheidig, A., Gross, H.-M.** Designing an Expressive Head For a Help Requesting Socially Assistive Robot. in: *Human-Friendly Robotics (HFR), Springer Proc. in Advanced Robotics*, vol 12. pp. 88-102, Springer 2019
 - 36) **Wengefeld, T., Mueller, St., Lewandowski, B., Gross, H.-M.** A Multi Modal People Tracker for Real Time Human Robot Interaction. in: *IEEE Int.*

- Symp. on Robot and Human Interactive Communication (RO-MAN), New Delhi, India*, 8 pages, IEEE 2019
- 37) **Wengefeld, T., Lewandowski, B., Seichter, D., Pfennig, L., Gross, H.-M.** Real-time Person Orientation Estimation using Colored Pointclouds. in: *Europ. Conf. on Mobile Robotics (ECMR), Prague, Czech Republic*, 7 pages, 2019
 - 38) **Backhaus, N., Rosen, P. H., Scheidig, A., Gross, H.-M., Wischniewski, S.** Somebody Help Me, Please?! Interaction Design Framework for Needy Mobile Service Robots. in: *IEEE Workshop on Advanced Robotics and its Social Impacts (ARSO)*, pp. 54-61, IEEE 2018
 - 39) **Dahn, N., Fuchs, St., Gross, H.M.** Situation Awareness for Autonomous Agents. in: *IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Nanjing, China*, pp. 666-671, IEEE 2018
 - 40) **Jaeschke, B., Vorndran, A., Trinh, T. Q., Scheidig, A., Gross, H.-M., Sander, K., Layher, F.** Making Gait Training Mobile - A Feasibility Analysis. in: *IEEE Int. Conf. on Biomedical Robotics and Biomechatronics (Biorob), Enschede, The Netherlands*, pp. 484-490, IEEE 2018
 - 41) **Katzmann, A., Muehlberg, A., Suehling, M., Noerenberg, D., Holch, J. W., Gross, H.-M.** Tumor Encode - Deep Convolutional Autoencoder for Computed Tomography Tumor Treatment Assessment. in: *World Congress on Computational Intelligence / Int. Joint Conf. on Neural Networks (IJCNN), Rio de Janeiro, Brazil*, pp. 3876-3883, IEEE 2018
 - 42) **Katzmann, A., Muehlberg, A., Suehling, M., Noerenberg, D., Holch, J.W., Heinemann, V., Gross, H.-M.** Predicting Lesion Growth and Patient Survival in Colorectal Cancer Patients using Deep Neural Networks. in: *Int. Conf. on Medical Imaging with Deep Learning (MIDL), Amsterdam, The Netherlands*, 12 pages, openreview.net, 2018
 - 43) **Mueller, St., Gross, H.-M.** Making a Socially Assistive Robot Companion Touch Sensitive. in: *Int. Conf. on Haptics and Touch Enabled Computer Applications (Eurohaptics), Pisa, Italy*, pp. 476-488, Springer 2018
 - 44) **Seichter, D., Eisenbach, M., Stricker, R., Gross, H.-M.** How to Improve Deep Learning based Pavement Distress Detection while Minimizing Human Effort. in: *IEEE Int. Conf. on Automation Science and Engineering (CASE), Munich*, pp. 63-68, IEEE 2018
 - 45) **Trinh, T. Q., Wengefeld, T., Mueller, St., Vorndran, A., Volkhardt, M., Scheidig, A., Gross, H.-M.** "Take a seat, please": Approaching and Recognition of Seated Persons by a Mobile Robot. in: *Int. Symposium on Robotics (ISR), Munich, Germany*, pp. 240-247, VDE Verlag 2018
 - 46) **Vorndran, A., Trinh, T. Q., Mueller, St., M., Scheidig, A., Gross, H.-M.** How to Always Keep an Eye on the User with a Mobile Robot? in: *Int. Symposium on Robotics (ISR), Munich, Germany*, pp. 219-225, VDE Verlag 2018
 - 47) **Dittmar, C., Denzler, J., Gross, H.-M.** A Feedback Estimation Approach for Therapeutic Facial Training. in: *Int. Joint Conf. on Face and Gesture Recognition (FG), Washington D.C., USA*, pp. 141-148, IEEE 2017
 - 48) **Eisenbach, M., Stricker, R., Seichter, D., Amende, K., Debes, K., Sesselmann, M., Ebersbach, D., Stoeckert, U., Gross, H.-M.** How to Get Pavement Distress Detection Ready for Deep Learning? A Systematic Approach. in: *Int. Joint Conf. on Neural Networks (IJCNN), Anchorage, USA*, pp. 2039-2047, IEEE 2017
 - 49) **Eisenbach, M., Stricker, R., Seichter, D., Vorndran, A., Wengefeld, T., Gross, H.-M.** Speeding up Deep Neural Networks on the Jetson TX1. in: *Int. WS CAPRI at Joint Conf. on Neural Networks (IJCNN), Anchorage, USA*, 12 pages, 2017
 - 50) **Gross, H.-M., Meyer, S., Scheidig, A., Eisenbach, M., Mueller, St., Trinh, T. Q., Wengefeld, Bley, A., Martin, Ch., Fricke, Ch.** Mobile Robot Companion for Walking Training of Stroke Patients in Clinical Post-stroke Rehabilitation. in: *IEEE Int. Conf. on Robotics and Automation (ICRA), Singapore*, pp. 1028-1035, IEEE 2017
Best Paper Award on Human-Robot Interaction (HRI) - Finalist
 - 51) **Lewandowski, B., Wengefeld, T., Schmiedel, Th., Gross, H.-M.** I See You Lying on the Ground - Can I Help You? Fast Fallen Person Detection in 3D with a Mobile Robot. in: *IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal*, pp. 74-80, IEEE 2017
 - 52) **Mueller, St., Trinh, T. Q., Gross, H.-M.** Local Real-Time Motion Planning Using Evolutionary Optimization. in: *Towards Autonomous Robotic Systems (TAROS), UK*, LNCS Vol. 10454, pp. 211-221, Springer 2017
 - 53) **Mueller, St., Trinh, T. Q., Gross, H.-M.** First Steps Towards Emotionally Expressive Motion Control For Wheeled Robots. in: *IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal*, pp. 1351-56, IEEE 2017
 - 54) **Schmiedel, Th., Gross, H.-M.** IRON-BAG: Fast Classification of Humans and Objects in 3D NDT-Maps using Structural Signatures. in: *IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal*, pp. 1491-1497, IEEE 2017
 - 55) **Eisenbach, M., Seichter, D., Wengefeld, T., Gross, H.-M.** Cooperative Multi-Scale Convolutional Neural Networks for Person Detection. in:

- IEEE World Congress on Computational Intelligence (WCCI), Vancouver, Canada*, pp. 267-276, IEEE 2016
- 56) **Gross, H.-M., Eisenbach, M., Scheidig, A., Trinh, T. Q., Wengefeld, T.** Contribution towards Evaluating the Practicability of Socially Assistive Robots - by Example of a Mobile Walking Coach Robot. in: *Int. Conf. on Social Robotics (ICSR), Kansas City, USA*, LNAI 9979, pp. 890-99, Springer 2016
 - 57) **Wengefeld, T., Eisenbach, M., Trinh, T. Q., Gross, H.-M.** May I be your Personal Coach? Bringing Together Person Tracking and Visual Re-identification on a Mobile Robot. in: *Int. Symposium on Robotics (ISR), Munich, Germany*, pp. 141-148, VDE Verlag 2016
 - 58) **Eisenbach, M., Kolarow, A., Vorndran, A., Niebling, J., Gross, H.-M.** Evaluation of Multi Feature Fusion at Score-Level for Appearance-based Person Re-Identification. in: *Proc. Int. Joint Conf. on Neural Networks (IJCNN), Killarney, Ireland*, pp. 469-476, IEEE 2015
 - 59) **Eisenbach, M., Vorndran, A., Sorge, S., Gross, H.-M.** User Recognition for Guiding and Following People with a Mobile Robot in a Clinical Environment. in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Hamburg, Germany*, pp. 3600-3607, IEEE 2015
 - 60) **Gross, H.-M., Mueller, St., Schroeter, Ch., Volkhardt, M., Scheidig, A., Debes, K., Richter, K., Doering, N.** Robot Companion for Domestic Health Assistance: Implementation, Test and Case Study under Everyday Conditions in Private Apartments. in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Hamburg, Germany*, pp. 5992-5999, IEEE 2015
 - 61) **Mueller, St., Schroeter, Ch., Gross, H.-M.** Smart Fur Tactile Sensor for a Socially Assistive Mobile Robot. in: *Proc. Int. Conf. on Intelligent Robotics and Applications (ICIRA), UK*, Part. II, LNAI 9246, pp. 49-60, Springer 2015
 - 62) **Schmiedel, Th., Einhorn, E., Gross, H.-M.** IRON: A Fast Interest Point Descriptor for Robust NDT-Map Matching and Its Application to Robot Localization. in: *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), Hamburg, Germany*, pp. 3144-3151, IEEE 2015
 - 63) **Stricker, R., Mueller, St., Gross, H.-M.** Universal Usage of a Video Projector on a Mobile Guide Robot. in: *Proc. Int. Conf. on Intelligent Robotics and Applications (ICIRA), UK*, LNAI 9246, pp. 25-36, Springer 2015 - Best Paper Award - Finalist
 - 64) **Stricker, R., Mueller, St., Gross, H.-M.** R2D2 Reloaded: Dynamic Video Projection on a Mobile Service Robot in: *Proc. Europ. Conf. on Mobile Robotics (ECMR), Lincoln, UK*, 6 pages, 2015
 - 65) **Trinh, T. Q., Schroeter, Ch., Gross, H.-M.** "Go ahead, please": Recognition and Resolution of Conflict Situations in Narrow Passages for Polite Mobile Robot Navigation. in: *Proc. Int. Conf. on Social Robotics (ICSR), Paris, France*, pp. 643-653, Springer 2015
 - 66) **Lanz, C., Denzler, J., Gross, H.-M.** Facial Movement Dysfunctions: Conceptual Design of a Therapy-Accompanying Training System. in: *Ambient Assisted Living, Advanced Technologies and Societal Change*, pp. 123-141, Springer 2014
 - 67) **Gross, H.-M., Debes, K., Einhorn, E., Mueller, St., Scheidig, A., Weinrich, Ch., Bley, A., Martin, Ch.** Mobile Robotic Rehabilitation Assistant for Walking and Orientation Training of Stroke Patients: A Report on Work in Progress. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC), San Diego, USA*, pp. 1895-1902, IEEE 2014
 - 68) **Klingelschmitt, St., Platho, M., Gross, H.-M., Willert, V., Eggert, J.** Combining Behavior and Situation Information for Reliably Estimating Multiple Intentions. in: *Proc. IEEE Intelligent Vehicles Symposium (IV), Dearborn, Michigan, USA*, pp. 383-393, IEEE 2014
 - 69) **Lanz, C., Olgay, B. S., Denzler, J., Gross, H.-M.** Facial Landmark Localization and Feature Extraction for Therapeutic Face Exercise Classification. in: *Computer Vision, Imaging and Computer Graphics - Theory and Applications: Revised Selected Papers of VISIGRAPP 2013*, Communications in Computer and Information Science (CCIS), vol. 458, pp. 179-194, Springer 2014
 - 70) **Mueller, St., Sprenger, S., Gross, H.-M.** Online Adaptation of Dialog Strategies based on Probabilistic Planning. in: *Proc. IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN), Edinburgh, UK*, pp. 692-697, IEEE 2014
 - 71) **Mueller, St., Sprenger, S., Gross, H.-M.** OfficeMate - a Study of an Online Learning Dialog System for Mobile Assistive Robots. in: *Proc. Int. Conf. on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE), Venice, Italy*, pp. 104-110, 2014, Best Paper Award
 - 72) **Stricker, R., Mueller, St., Gross, H.-M.** Non-contact Video-based Pulse Rate Measurement on a Mobile Service Robot in: *Proc. IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN), Edinburgh, UK*, pp. 1056-1062, IEEE 2014
 - 73) **Weinrich, Ch., Wengefeld, T., Volkhardt, M., Scheidig, A., Gross, H.-M.** Generic Distance-Invariant Features for Detecting People with Walking Aid in 2D Range Data. in: *Proc. Int. Conf. on Intelligent Autonomous Systems (IAS), Padua, Italy*, 12 pages, 2014
 - 74) **Weinrich, Ch., Wengefeld, T., Schroeter, Ch., Gross, H.-M.** People Detection and Distinction

- of their Walking Aids in 2D Laser Range Data based on Generic Distance-Invariant Features. in: *Proc. IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN)*, Edinburgh, UK, pp. 767-773, IEEE 2014
- 75) **Einhorn, E.; Gross, H.-M.** Generic 2D/3D SLAM with NDT Maps for Lifelong Application. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Barcelona, Spain, 8 pages
- 76) **Kaltenhaeuser, R., Schaffernicht, E., Steege, F.-F. Gross, H.-M.** Evolutionary Computation Based System Decomposition with Neural Networks. in: *Proc. European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN)*, Bruges, Belgium, pp. 191-196, d-side publishing 2013
- 77) **Kessler, J., Schmidt, M., Helsper, S., Gross, H.-M.** I'm Still Watching You: Update on Observing a Person in a Home Environment. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Barcelona, Spain, 7 pages
- 78) **Kolarow, A., Schenk, K., Eisenbach, M., Dose, M., Brauckmann, M., Debes, K., Gross, H.-M.** APFel: The Intelligent Video Analysis and Surveillance System for Assisting Human Operators. in: *Proc. IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance (AVSS)*, Krakow, Poland, pp. 195-201, IEEE 2013
- 79) **Lanz, C., Olgay, B.S., Denzler, J., Gross, H.-M.** Automated Classification of Therapeutic Face Exercises using the Kinect. in: *Proc. IEEE Int. Joint Conf. on Computer Vision, Imaging and Computer Graphics - Theory and Applications (VISAPP)*, Barcelona, Spain, pp. 556-565 - Best Student Paper Award -
- 80) **Lanz, C., Denzler, J., Gross, H.-M.** Robust Landmark Localization for Facial Therapy Applications. in: *Proc. European Conf. on Technically Assisted Rehabilitation (TAR)*, Berlin, Germany, 4 pages
- 81) **Mueller, St., Schroeter, Ch., Gross, H.-M.** Low-Cost Whole-Body Touch Interaction for Manual Motion Control of a Mobile Service Robot. in: *Int. Conf. on Social Robotics (ICSR)*, Bristol, UK, LNCS, vol. 8239, pp. 229-238, Springer 2013
- 82) **Platho, M., Gross, H.-M., Eggert, J.** Predicting Velocity Profiles of Road Users at Intersections Using Configurations. in: *Proc. IEEE Intelligent Vehicles Symposium (IV)*, Gold Coast, Australia, pp. 945-951, IEEE 2013
- 83) **Platho, M., Gross, H.-M., Eggert, J.P.** Learning Driving Situations and Behavior Models from Data. in: *Proc. IEEE Int. Conf. on Intelligent Transportation Systems (ITS)*, The Hague, The Netherlands, pp. 276-281, IEEE 2013
- 84) **Schroeter, Ch., Mueller, St., Volkhardt, M., Einhorn, E., Huijnen, C., van den Heuvel, H., van Berlo, A., Bley, A., Gross, H.-M.** Realization and User Evaluation of a Companion Robot for People with Mild Cognitive Impairments. in: *Proc. IEEE Int. Conf. on Robotics and Automation (ICRA)*, Karlsruhe, Germany, pp. 1145-1151, IEEE 2013
- 85) **Volkhardt, M., Weinrich, Ch., Gross, H.-M.** Multi-Modal People Tracking on a Mobile Companion Robot. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Barcelona, Spain, 6 pages, 2013
- 86) **Volkhardt, M., Gross, H.-M.** Finding People in Home Environments with a Mobile Robot. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Barcelona, Spain, 6 pages
- 87) **Volkhardt, M., Gross, H.-M.** Finding People in Apartments with a Mobile Robot. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Manchester, GB, pp. 4348-4353, IEEE 2013
- 88) **Volkhardt, M., Weinrich, Ch., Gross, H.-M.** People Tracking on a Mobile Companion Robot. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Manchester, GB, pp. 4354-4359, IEEE 2013
- 89) **Volkhardt, M., Schneemann, F., Gross, H.-M.** Fallen Person Detection for Mobile Robots Using 3D Depth Data. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Manchester, GB, pp. 3573-3578, IEEE 2013
- 90) **Vollmer, Ch., Gross H.-M., Eggert J.P.** Learning Features for Activity Recognition with Shift-Invariant Sparse Coding. in: *Artificial Neural Networks and Machine Learning - ICANN 2013(ICANN)*, Sofia, Bulgaria, LNCS, vol. 8131, pp. 367-374, Springer 2013
- 91) **Weinrich, Ch., Volkhardt, M. Einhorn, E., Gross, H.-M.** Prediction of Human Collision Avoidance Behavior by Lifelong Learning for Socially Compliant Robot Navigation. in: *Proc. IEEE Int. Conf. on Robotics and Automation (ICRA)*, Karlsruhe, Germany, pp. 376-381, IEEE 2013
- 92) **Weinrich, Ch., Volkhardt, M., Gross, H.-M.** Appearance-Based 3D Upper-Body Pose Estimation and Person Re-Identification on Mobile Robots. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Manchester, GB, pp. 4384-4390, IEEE Computer 2013
- 93) **Einhorn, E., Langner, T., Stricker, R., Martin, Ch., Gross, H.-M.** MIRA - Middleware for Robotic Applications. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, pp. 2591-2598, IEEE 2012
- 94) **Eisenbach, M., Kolarow, A., Schenk, K., Debes, K., Gross, H.-M.** View Invariant Appearance-based Person Reidentification Using Fast Online Feature Selection and Score Level Fusion. in: *Proc. Int. Conf. on Advanced Video and*

- Signal-Based Surveillance (AVSS)*, Beijing, China, pp. 184-190, IEEE 2012
- 95) **Gross, H.-M., Schroeter, Ch., Mueller, St., Volkhardt, M., Einhorn, E., Bley, A., Langner, T., Merten, M., Huijnen, C., van den Heuvel, H., van Berlo, A.** Further Progress towards a Home Robot Companion for People with Mild Cognitive Impairment. in: *Proc. Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Seoul, South Korea, pp. 637-644, IEEE 2012
- 96) **Kessler, J., Iser, D., Gross, H.-M.** I'll Keep You in Sight: Finding a Good Position to Observe a Person. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, pp. 4392-4398, IEEE 2012 (nominated for CoTeSys Best-paper Award)
- 97) **Kessler, J., Strobel, J., Gross, H.-M.** Using a Spatio-Temporal FastMarching Planner to Politely Avoid Moving Persons. in: *Autonomous Mobile Systems 2012 (AMS)*, Stuttgart, Germany, Informatik aktuell, pp. 59-67, Springer 2012
- 98) **Kessler, J., Strobel, J., Gross, H.-M.** Avoiding Moving Persons by Using Simple Trajectory Prediction and Spatio Temporal Planning. in: *KI 2012: Advances in Artificial Intelligence (KI)*, Saarbruecken, Germany, LNCS 7526, pp. 85-96, Springer 2012
- 99) **Kolarow, A., Brauckmann, M., Eisenbach, M., Schenk, K., Einhorn, E., Debes, K., Gross, H.-M.** Vision-based Hyper-Real-Time Object Tracker for Robotic Applications. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, pp. 2108-2115, IEEE 2012
- 100) **Merten, M., Bley, A., Schroeter, Ch., Gross, H.-M.** A Mobile Robot Platform for Socially Assistive Home-care Applications. in: *Proc. German Conf. on Robotics (ROBOTIK)*, 2012, Munich, Germany, pp. 233-238, publisher: VDE 2012
- 101) **Platho, M., Gross, H.-M., Eggert, J.** Traffic Situation Assessment by Recognizing Interrelated Road Users. in: *Proc. IEEE Int. Conf. on Intelligent Transportation Systems (ITSC)*, Anchorage, pp. 1339-1344, IEEE 2012
- 102) **Schenk, K., Kolarow, A., Eisenbach, M., Debes, K., Gross, H.-M.** Automatic Calibration of a Stationary Network of Laser Range Finders by Matching Movement Trajectories. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, pp. 431-437, IEEE 2012
- 103) **Schenk, K., Kolarow, A., Eisenbach, M., Debes, K., Gross, H.-M.** Automatic Calibration of Multiple Stationary Laser Range Finders using Trajectories. in: *Proc. IEEE Int. Conf. on Advanced Video and Signal-Based Surveillance (AVSS)*, Beijing, China, pp. 306-312, IEEE 2012
- 104) **Steege, F.-F., Gross, H.-M.** Comparison of Long-Term Adaptivity for Neural Networks. in: *Artificial Neural Networks and Machine Learning - ICANN 2012 (ICANN)*, Lausanne, Switzerland, LNCS 7553, Part II, pp. 50-57, Springer 2012
- 105) **Steege, F.-F., Stephan, V., Gross, H.-M.** Effects of Noise-Reduction on Neural Function Approximation. in: *Proc. European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN)*, pp. 73-78, d-side publishing 2012
- 106) **Stricker, R., Mueller, St., Einhorn, E., Schroeter, C., Volkhardt, M., Debes, K., Gross, H.-M.** Konrad and Suse, Two Robots Guiding Visitors in a University Building. in: *Autonomous Mobile Systems 2012 (AMS)*, Stuttgart, Germany, Informatik aktuell, pp. 49-58, Springer 2012
- 107) **Stricker, R., Mueller, St., Einhorn, E., Schroeter, C., Volkhardt, M., Debes, K., Gross, H.-M.** Interactive Mobile Robots Guiding Visitors in a University Building. in: *Proc. IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN)*, Paris, France, pp. 695-700, IEEE 2012
- 108) **Vollmer, Ch, Eggert, J., Gross, H.-M.** Generating Motion Trajectories by Sparse Activation of Learned Motion Primitives. in: *Artificial Neural Networks and Machine Learning - ICANN 2012 (ICANN)*, Lausanne, Switzerland, LNCS, vol. 7552 Part I, pp. 637-644, Springer 2012
- 109) **Vollmer, Ch, Eggert, J., Gross, H.-M.** Modeling Human Motion Trajectories by Sparse Activation of Motion Primitives Learned from Unpartitioned Data. in: *KI 2012: Advances in Artificial Intelligence (KI)*, Saarbruecken, Germany, LNCS, vol. 7526, pp. 168-179, Springer 2012
- 110) **Weinrich, Ch., Vollmer, Ch., Gross, H.-M.** Estimation of Human Upper Body Orientation for Mobile Robotics using an SVM Decision Tree on Monocular Images. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, pp. 2147-2152, IEEE 2012
- 111) **Einhorn, E., Schroeter, Ch., Gross, H.-M.** Finding the Adequate Resolution for Grid Mapping - Cell Sizes Locally Adapting On-the-Fly in: *Proc. IEEE Int. Conf. on Robotics and Automation (ICRA)*, Shanghai, China, pp. 1843-1848, IEEE 2011
- 112) **Einhorn, E., Filzhuth, M., Schroeter, Ch., Gross, H.-M.** Monocular Detection and Estimation of Moving Obstacles for Robot Navigation in: *Proc. European Conf. on Mobile Robots (ECMR)*, Orebro, Sweden, pp. 121-126
- 113) **Gross, H.-M., Schroeter, Ch., Mueller, St., Volkhardt, M., Einhorn, E., Bley, A., Martin, Ch., Langner, T., Merten, M.** Progress in Developing a Socially Assistive Mobile Home Robot Companion for the Elderly with Mild Cognitive Impairment. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, San Francisco, USA, pp. 2430-2437, IEEE Omnipress 2011

- 114) **Gross, H.-M., Schroeter, Ch., Mueller, St., Volkhardt, M., Einhorn, E., Bley, A., Martin, Ch., Langner, T., Merten, M.** I'll Keep an Eye on You: Home Robot Companion for Elderly People with Cognitive Impairment. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Anchorage, USA, pp. 2481-2488, IEEE 2011
- 115) **Kessler, J., Schroeter, Ch., Gross, H.-M.** Approaching a Person in a Socially Acceptable Manner Using a Fast Marching planner. in: *Intelligent Robotics and Applications (ICIRA)*, Aachen, Germany, LNCS vol. 7102, Part. II, pp. 368-377, Springer 2011
- 116) **Kessler, J., Scheidig, A., Gross, H.-M.** Approaching a Person in a Socially Acceptable Manner Using Expanding Random Trees. in: *Proc. 5th European Conference on Mobile Robots (ECMR)*, Orebro, Sweden, pp. 95-100
- 117) **Schaffernicht, Gross, H.-M.** Weighted Mutual Information for Feature Selection. in: *Artificial Neural Networks and Machine Learning - ICANN 2011 (ICANN)*, Espoo, Finland, LNCS 6792, Part II, pp. 181-188, Springer 2011
- 118) **Schenk, K., Eisenbach, M. Kolarow, A. Gross, H.-M.** Comparison of Laser-based Person Tracking at Feet and Upper-Body Height. in: *KI 2011: Advances in Artificial Intelligence (KI)*, Berlin, Germany, LNCS 7006, pp. 277-288, Springer 2011
- 119) **Volkhardt, M., Mueller, S., Schroeter, Ch., Gross, H.-M.** Detection of Lounging People with a Mobile Robot Companion. in: *Intelligent Robotics and Applications (ICIRA)*, Aachen, Germany, Lecture Notes in Computer Science (LNCS) 7102 Part II, pp. 328-337, Springer 2011
- 120) **Volkhardt, M., Mueller, St., Schroeter, Ch., Gross, H.-M.** Playing Hide and Seek with a Mobile Companion Robot, in: *Proc. IEEE-RAS Int. Conf. on Humanoid Robot (HUMANOIDS)*, Bled, Slovenia, pp. 40-46
- 121) **Einhorn, E., Schroeter, Ch., Gross, H.-M.** Can't Take my Eye off You: Attention-Driven Monocular Obstacle Detection and 3D Mapping, in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Taipeh, Taiwan, pp. 816-821, IEEE 2010
- 122) **Steege, F.-F., Hartmann, A., Schaffernicht, E., Gross, H.-M.** Reinforcement Learning Based Neural Controllers for Dynamic Processes without Exploration. in: *Artificial Neural Networks - ICANN 2010 (ICANN)*, Thessaloniki, Greece, Part II, LNCS 6353, pp. 222-227, Springer 2010
- 123) **Schaffernicht, E., Kaltenhauser, R., Verma, S. S., Gross, H.-M.** On Estimating Mutual Information for Feature Selection. in: *Artificial Neural Networks - ICANN 2010 (ICANN)*, Thessaloniki, Greece, Part I, LNCS 6352, pp. 362-367, Springer 2010
- 124) **Vollmer, Ch, Schaffernicht, E., Gross, H.-M.** Exploring Continuous Action Spaces with Diffusion Trees for Reinforcement Learning. in: *Artificial Neural Networks - ICANN 2010 (ICANN)*, Thessaloniki, Greece, Part II, LNCS 6353, pp. 190-199, Springer 2010
- 125) **Eggert, J. P., Hellbach, S., Koerner, E., Gross, H.-M.** Prediction and Classification of Motion Trajectories using Spatio-Temporal NMF. in: *KI 2009 - Advances in Artificial Intelligence (KI)* Paderborn, LNCS 5803, pp. 597-606, Springer 2009
- 126) **Einhorn, E., Schroeter, Ch., Gross, H.-M.** Monocular Scene Reconstruction for Reliable Obstacle Detection and Robot Navigation. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Dubrovnik, Croatia, pp. 7-12, KoREMA Zagreb 2009
- 127) **Einhorn, E., Schroeter, Ch., Gross, H.-M.** Monocular Obstacle Detection for Real-World Environments. in: *Autonome Mobile Systeme 2009 (AMS)*, Karlsruhe, Germany, pp. 33-40, Informatik aktuell, Springer 2009
- 128) **Gross, H.-M., Boehme, H.-J., Schroeter, Ch., Mueller, St., Koenig, A., Einhorn, E., Martin, Ch., Merten, M., Bley, A.** TOOMAS: Interactive Shopping Guide Robots in Everyday Use - Final Implementation and Experiences from Long-Term Field Trials. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS 2009)*, St. Louis, USA, pp. 2005-2012, IEEE 2009
- 129) **Hans, A., Udluft, St.** Efficient Uncertainty Propagation for Reinforcement Learning with Limited Data in: *Artificial Neural Networks - ICANN 2009 (ICANN)*, Cyprus, Part I, LNCS 5768, pp. 70-79, Springer 2009
- 130) **Hellbach, S., Eggert, J., Koerner, E., Gross, H.-M.** Basis Decomposition of Motion Trajectories Using Spatio-Temporal NMF. in: *Artificial Neural Networks - ICANN 2009 (ICANN)*, Cyprus, Part II, LNCS 5769, pp. 804-814, Springer 2009
- 131) **Hellbach, S., Eggert, J., Koerner, E., Gross, H.-M.** Time Series Analysis for Long Term Prediction of Human Movement Trajectories. in: *Advances in Neuro-Information Processing (ICONIP)*, Auckland, NZ, Part II, LNCS 5507, pp. 567-574, Springer 2009
- 132) **Kessler, J., Koenig, A., Gross, H.-M.** An Improved Sensor Model on Appearance Based SLAM. in: *Autonome Mobile Systeme 2009 (AMS)*, Karlsruhe, Germany, pp. 153-160, Informatik aktuell, Springer 2009
- 133) **Kirstein, St., Wersing, H., Gross, H.-M., Koerner, E.** An Integrated System for Incremental Learning of Multiple Visual Categories. in: *Advances in Neuro-Information Processing (ICONIP 2008)*, Auckland, NZ, Part I, LNCS 5507, pp. 813-820, Springer 2009
- 134) **Kirstein, St., Wersing, H., Gross, H.-M.,**

- Koerner, E.** A Vector Quantization Approach for Life-Long Learning of Categories. in: *Advances in Neuro-Information Processing (ICONIP), Auckland, NZ, Part I, LNCS 5506*, pp. 805–812, Springer 2009 (Best paper award)
- 135) **Kirstein, St., Wersing, H., Koerner, E., Gross, H.-M.** An Integrated System for Incremental Learning of Multiple Visual Categories. in: *Bernstein Conf. on Computational Neuroscience 2009 (BCCN 2009), Frankfurt*, pp. 36-37, Frontiers in Computational Neuroscience
- 136) **Koenig, A., Kessler, J., Gross, H.-M.** Improvements for an Appearance-Based SLAM-Approach for Large-Scale Environments. in: *Proc. European Conf. on Mobile Robots (ECMR), Dubrovnik, Croatia*, pp. 235-240, KoREMA Zagreb 2009
- 137) **Schaffernicht, E., Moeller, Ch., Debes, K., Gross, H.-M.** Forward Feature Selection Using Residual Mutual Information. in: *Proc. European Symposium On Artificial Neural Networks, Computational Intelligence and Learning (ESANN)*, pp. 583-588, d-side publishing 2009
- 138) **Schaffernicht, E., Stephan, V., Gross, H.-M.** Adaptive Feature Transformation for Image Data from Non-Stationary Processes. in: *Artificial Neural Networks - ICANN 2009 (ICANN), Cyprus, Part II, LNCS 5769*, pp. 735-744, Springer 2009
- 139) **Schaffernicht, E., Stephan, V., Debes, K., Gross, H.-M.** Machine Learning Techniques for Selforganizing Combustion Control. in: *KI 2009: Advanced in Artificial Intelligence (KI), Paderborn, LNCS 5803*, pp. 395-402, Springer 2009
- 140) **Schroeter, Ch., Hoechemer, M., Mueller, St., Gross, H.-M.** Autonomous Robot Cameraman - Observation Pose Optimization for a Mobile Service Robot in Indoor Living Space. in: *Proc. IEEE Int. Conf. on Robotics and Automation (ICRA 2009), Kobe, Japan*, pp. 424-429, IEEE 2009
- 141) **Stricker, R., Martin, Ch., Gross, H.-M.** Increasing the Robustness of 2D Active Appearance Models for Real-World Applications. in: *Computer Vision Systems (ICVS), Liege, LNCS 5815*, pp. 364-373, Springer 2009
- 142) **Volkhardt, M., Kalesse, S., Mueller, St., Gross, H.-M.** Maximum a Posteriori Estimation of Dynamically Changing Distributions. in: *KI 2009: Advances in Artificial Intelligence (KI), Paderborn, LNCS 5803*, pp. 484-491, Springer 2009
- 143) **Gross, H.-M., Boehme, H.-J., Schroeter, Ch., Mueller, St., Koenig, A., Martin, Ch., Merten, M., Bley, A.** ShopBot: Progress in Developing an Interactive Mobile Shopping Assistant for Everyday Use. in: *Proc. IEEE Int. Conf. on Systems, Man and Cybernetics (SMC), Singapore*, pp. 3471-3478, IEEE 2008
- 144) **Hellbach, S., Strauss, S., Eggert, J., Koerner, E., Gross, H.-M.** Echo State Networks for Online Prediction of Movement Data - Comparing Investigations. in: *Artificial Neural Networks-ICANN (ICANN), Prague, Part I, LNCS 5163*, pp. 710-719, Springer Verlag 2008
- 145) **Koenig, A., Kessler, J., Gross, H.-M.** A Graph Matching Technique for an Appearance-Based, Visual SLAM-Approach Using Rao-Blackwellized Particle Filters. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), France*, pp. 1576-1581, IEEE 2008
- 146) **Martin, Ch., Werner, U., Gross, H.-M.** A Real-time Facial Expression Recognition System based on Active Appearance Models using Gray Images and Edge Images. in: *Proc of the IEEE Int. Conf. on Face and Gesture Recognition (FG), Amsterdam*, paper-no 299, 6 pages, IEEE 2008
- 147) **Merten, M., Gross, H.-M.** Highly Adaptable Hardware Architecture for Scientific and Industrial Mobile Robots. in: *Proc. IEEE Int. Conf. on Robotics, Automation and Mechatronics (RAM), Chengdu, China*, pp. 1130-1135, IEEE 2008
- 148) **Mueller, St., Hellbach, S., Schaffernicht, E., Ober, A., Scheidig, A., Gross, H.-M.** Whom to Talk to? Estimating User Interest from Movement Trajectories. in: *Proc. of the IEEE Int. Symposium on Robot and Human Interactive Communication, (RO-MAN), Munich, Germany*, pp. 532-538, IEEE
- 149) **Schroeter, Ch., Gross, H.-M.** A Sensor-Independent Approach to RBPF SLAM - Map Match SLAM Applied to Visual Mapping. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS), France*, pp. 2078-83, IEEE 2008
- 150) **Brueckmann, R., Scheidig, A., Gross, H.-M.** Adaptive Noise Reduction and Voice Activity Detection for Improved Verbal Human-Robot Interaction Using Binaural Data. in: *Proc. IEEE Int. Conf. on Robotics and Automation (ICRA), Roma, Italy*, pp. 1782-1787, IEEE 2007
- 151) **Einhorn, E., Schroeter, Ch., Boehme, H.-J., Gross, H.-M.** A Hybrid Kalman Filter Based Algorithm for Real-time Visual Obstacle Detection. in: *Proc. European Conf. on Mobile Robots (ECMR), Freiburg*, pp. 156-161, Albert-Ludwigs-Universität Freiburg - Universitätsverlag 2007
- 152) **Glaeser, C., Heckmann, M., Joublin, F., Goerick, Ch., Gross, H.-M.** Joint Estimation of Formant Trajectories via Spectro-Temporal Smoothing and Bayesian Techniques. in: *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP), Hawaii*, pp. IV-477-480, IEEE, 2007
- 153) **Hahn, M., Krueger, L., Woehler, Ch., Gross, H.-M.** Tracking of Human Body Parts Using the Multiocular Contracting Curve Density Algorithm. in: *Proc. Int. Conf. on 3-D Digital Imaging and Modeling (3DIM), Canada*, pp. 257-264, IEEE 2007
- 154) **Martin, Ch., Steege, F.- F., Gross, H.-M.** Estimation of Pointing Poses for Visual Instructing

- Mobile Robots under Real-World Conditions. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Freiburg, pp. 223-228, Albert-Ludwigs-Universität Freiburg - Universitätsverlag 2007
- 155) **Mueller, St., Schaffernicht, E., Scheidig, A., Boehme, H.-J., Gross, H.-M.** Are You Still Following Me? in: *Proc. European Conf. on Mobile Robots (ECMR)*, Freiburg, pp. 211-216, Albert-Ludwigs-Universität Freiburg - Universitätsverlag 2007
- 156) **Rebhan, S., Eggert, J., Gross, H.-M., Koerner, E.** Sparse and Transformation-Invariant Hierarchical NMF in: *Artificial Neural Networks - ICANN 2007 (ICANN)*, Portugal, Part I, LNCS 4668, pp. 894-903, Springer 2007
- 157) **Schaffernicht, E., Stephan, V., Gross, H.-M.** An Efficient Search Strategy for Feature Selection Using Chow-Liu Trees in: *Artificial Neural Networks - ICANN 2007 (ICANN)*, Portugal, Part II, LNCS 4668, pp. 190-199, Springer 2007
- 158) **Schroeter, Ch., Boehme, H.-J., Gross, H.-M.** Memory-Efficient Gridmaps in Rao-Blackwellized Particle Filters for SLAM Using Sonar Range Sensors. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Freiburg, pp. 138-143, Albert-Ludwigs-Universität Freiburg - Universitätsverlag 2007
- 159) **Steege, F., Martin, Ch., Gross, H.-M.** Estimation of Pointing Poses on Monocular Images with Neural Techniques - An Experimental Comparison in: *Artificial Neural Networks - ICANN 2007 (ICANN)*, Portugal, Part II, LNCS 4669, pp. 593-602, Springer 2007
- 160) **Boehme, H.-J., Scheidig, A., Wilhelm, T., Schroeter, Ch., Martin, Ch., Koenig, A., Mueller, St., Gross, H.-M.** Progress in the Development of an Interactive Shopping Assistant. in: *Proc. Joint Conf. on Robotics: Int. Symposium on Robotics (ISR) and German Conference on Robotics (Robotik)*, Munich, Germany., paper nr. 83, 20 pages, VDI, 2006
- 161) **Gross, H.-M., Richarz, J., Mueller, St., Scheidig, A. Martin, Ch.** Probabilistic Multi-Modal People Tracker and Monocular Pointing Pose Estimator for Visual Instruction of Mobile Robot Assistants. in: *Proc. 2006 IEEE World Congress on Computational Intelligence (WCCI 2006), Int. Joint Conference on Neural Networks (IJCNN-06)*, Vancouver, Canada, pp. 8325-8333, IEEE, 2006
- 162) **Kuhl, A., Woehler, Chr., Krueger, L., d'Angelo, P., Gross, H.-M.** Monocular 3D Scene Reconstruction at Absolute Scales by Combination of Geometric and Real-Aperture Methods. in: *Pattern Recognition (DAGM)*, Berlin, Germany. LNCS 4174, pp. 607-616, Springer, 2006.
- 163) **Richarz, J., Martin, Ch., Scheidig, A. Gross, H.-M.** There You Go! - Estimating Pointing Gestures In Monocular Images For Mobile Robot Instruction. in: *IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN)*, Hatfield (UK), pp. 546-551, IEEE 2006
- 164) **Scheidig, A., Mueller, St., Martin, Ch., Gross, H.-M.** Generating Person's Movement Trajectories on a Mobile Robot. in: *IEEE Int. Symposium on Robot and Human Interactive Communication (RO-MAN)*, Hatfield (UK), pp. 747-752, IEEE 2006
- 165) **Gross, H.-M., Koenig, A., Mueller, St.** Omniview-Based Concurrent Map Building and Localization Using Adaptive Appearance Maps. in: *Proc. IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Hawaii, pp. 3510-3515, IEEE 2005
- 166) **Koenig, A., Mueller, St., Gross, H.-M.** Appearance-Based CML Approach for a Home Store Environment. in: *Proc. of the European Conference on Mobile Robots (ECMR)*, Ancona, Italy, pp. 206-211, stampalibri 2005 (ISBN 88-89177-187)
- 167) **Martin, Ch., Schaffernicht, E., Scheidig, A. and Gross, H.-M.** Sensor Fusion Using a Probabilistic Aggregation Scheme for People Detection and Tracking. in: *Proc. of the European Conf. on Mobile Robots (ECMR)*, Ancona, Italy, pp. 176-181, stampalibri 2005 (ISBN 88-89177-187)
- 168) **Martin, Ch., Scheidig, A., Wilhelm, T., Schroeter, C., Boehme, H.-J., and Gross, H.-M.** A New Control Architecture for Mobile Interaction-Robots. in: *Proc. of the European Conf. on Mobile Robots (ECMR)*, Ancona, Italy, pp. 224-229, stampalibri 2005 (ISBN 88-89177-187)
- 169) **Mueller, St., Koenig, A., Gross, H.-M.** Neural Architecture for Concurrent Map Building and Localization using Adaptive Appearance Maps. in: *Artificial Neural Networks: Formal Models and their Applications - ICANN 2005 (ICANN)*, LNCS 3697, Part II, pp. 929-934, Springer 2005
- 170) **Schaffernicht, E., Martin, Ch., Scheidig, A., Gross, H.-M.** A Probabilistic Multimodal Sensor Aggregation Scheme Applied for a Mobile Robot. in: *Proc. Annual German Conf. on Artificial Intelligence (KI)*, Koblenz, LNAI 3698, pp. 320-334, Springer 2005
- 171) **Schroeter, Ch., Koenig, A., Boehme, H.-J., Gross, H.-M.** Multi-Sensor Monte-Carlo-Localization Combining Omni-Vision and Sonar Range Sensors. in: *Proc. of the European Conf. on Mobile Robots (ECMR)*, Ancona, Italy, pp. 164-169, stampalibri 2005 (ISBN 88-89177-187)
- 172) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** Classification of Face Images for Gender, Age, Facial Expression, and Identity. in: *Artificial Neural Networks: Biological Inspirations - ICANN 2005 (ICANN)*, LNCS 3696, Part. I, pp. 569-574, Springer 2005
- 173) **Gross, H.-M., Koenig, A.** Robust Omniview-Based Probabilistic Self-Localization for Mobile Ro-

- bots in Large Maze-like Environments. in: *Proc. Int. Conf. on Pattern Recognition (ICPR)*, Cambridge, GB, vol. 3, pp. 266-269, IEEE 2004
- 174) **Martin, Ch., Boehme, H.-J., Gross, H.-M.** Conception and Realization of a Multi-Sensory Interactive Mobile Office Guide. in: *Proc. IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Den Haag, Niederlande, pp. 5368-5373, IEEE 2004
- 175) **Schauer, C., Gross, H.-M.** Design and Optimization of Amari Neural Fields for Early Auditory-Visual Integration. in: *Proc. IEEE Int. Joint Conf. on Neural Networks (IJCNN)*, Budapest, pp. 2523-2528, IEEE, 2004
- 176) **Schroeter, Ch., Boehme, H.-J., Gross, H.-M.** Robust Map Building for an Autonomous Robot Using Low-Cost Sensors. in: *Proc. IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Den Haag, Niederlande, pp. 5398-5403, IEEE 2004
- 177) **Wilhelm, T., Boehme, H.-J., Gross, H.-M., Backhaus, A.** Statistical and Neural Methods for Vision-Based Analysis of Facial Expressions and Gender. in: *Proc. IEEE Int. Conf. on Systems, Man, and Cybernetics (SMC)*, Den Haag, Niederlande, pp. 2203-2208, IEEE 2004
- 178) **Gross, H.-M., Koenig, A., Schroeter, Ch., Boehme, H.-J.** Omnivision-Based Probabilistic Self-Localization for a Mobile Shopping Assistant Continued. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Las Vegas, USA, pp. 1505-1511, IEEE 2003
- 179) **Schauer, C., Gross, H.-M.** A Computational Model of Early Auditory-Visual Integration. in: *Pattern Recognition (DAGM-Symposium)*, Magdeburg, LNCS 2781, pp. 362-369, Springer 2003
- 180) **Schroeter, Chr., Boehme, H.-J., Gross, H.-M.** Extraction of Orientation from Floor Structure for Odometry Correction in Mobile Robotics. in: *Pattern Recognition (DAGM-Symposium)*, Magdeburg, LNCS 2781, pp. 410-417, Springer 2003
- 181) **Stephan, V., Saupé, M., Bischoff, M., Reindanz, H., Gross, H.-M.** Is Reinforcement-Learning Able to Solve Real-World Challenges?. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN) and Int. Conf. on Neural Information Processing (ICONIP)*, Istanbul, pp. 346-349, Bogazici University Library, ISBN 975-518-209-8
- 182) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** Looking Closer. in: *Proc. European Conf. on Mobile Robots (ECMR)*, Warsaw, pp. 65-70, Zturek Press Warschau 2003
- 183) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** Towards an Attentive Robotic Dialog Partner. in: *Proc. Int. Conf. on Multimodal Interfaces (ICMI)*, Vancouver, Canada pp. 297-300, ACM 2003
- 184) **Zahn, T., Grothe, B., Gross, H.-M.** An Auditory Model for Echo Suppression Based upon Dynamic Recordings in the Gerbils DNLL. in: *Proc. Göttingen Neurobiology Conf.*, 2003, pp. 363-364, Verlag der Neurowissenschaftlichen Gesellschaft
- 185) **Gross, H.-M., Boehme, H.-J., Schroeter, Ch., Koenig, A.** Panoramic View Based Monte Carlo Self-Localization for Mobile Robots Operating in Real-World Environments. in: *Proc. Int. Workshop on Dynamic Perception (DynPer)*, Bochum, pp. 171-176, IOS Press, Infix 2002
- 186) **Gross, H.-M., Koenig, A., Boehme, H.-J., Schroeter, Chr.** Vision-Based Monte Carlo Self-Localization for a Mobile Service Robot Acting as Shopping Assistant in a Home Store. in: *Proc. IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, Lausanne, Switzerland, pp. 256-262, IEEE 2002
- 187) **Surmeli, D., Gross, H.-M.** Behavior Coordination for a Mobile Visuo-Motor System in an Augmented Real-World Environment. in: *From Animals to Animals 7 - Proc. Int. Conf. on Simulation of Adaptive Behavior (SAB)*, Edinburgh, pp. 103-104, MIT Press 2002
- 188) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** Sensor Fusion for Vision and Sonar Based People Tracking on a Mobile Service Robot. in: *Proc. Int. Workshop on Dynamic Perception (DynPer)*, Bochum, pp. 315-320, IOS Press, Infix 2002
- 189) **Boehme, H.-J., Wilhelm, T., Key, J., Schroeter, Chr., Gross, H.-M., Hempel, T.** An Approach to Multimodal Human-Machine Interaction for Intelligent Service Robots. in: *Proc. European Workshop on Advanced Mobile Robots (Eurobot)*, Lund (Sweden), pp. 17-24, Lund University Cognitive Studies, vol. 86, 2001
- 190) **Gross, H.-M., Boehme, H.-J.** A Contribution to Vision-Based Localization, Tracking and Navigation Methods for an Interactive Mobile Service-Robot. in: *IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Tucson (USA), pp. 672-677, IEEE, 2001
- 191) **Heinze, A., Gross, H.-M.** Integration of a Fuzzy ART Approach in a Biologically Inspired Sensorimotor Architecture. in: *Proc. IEEE Int. Joint Conf. on Neural Networks (IJCNN)*, Washington, pp. 1261-1266, IEEE, 2001
- 192) **Heinze, A., Gross, H.-M.** Anticipation-Based Control Architecture for a Mobile Robot. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN)*, Vienna, pp. 899-905, LNCS vol. 2130, Springer 2001
- 193) **Schauer, C., Gross, H.-M.** A Model of Horizontal 360° Object Localization Based on Binaural Hearing and Monocular Vision. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN)*, Vienna, 2001, pp. 1141-1146, LNCS vol. 2130, Springer 2001
- 194) **Schauer, C., Gross, H.-M.** Model and Application of a Binaural 360° Sound Localization System. in: *Proc. IEEE Int. Joint Conference on Neural Networks (IJCNN)*, Washington, pp. 1132-1137, IEEE, 2001

- 195) **Stephan, V., Gross, H.-M.** Neural Architecture for Mental Imaging of Sequences Based on Optical Flow Prediction. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN)*, Vienna., pp. 885-890, LNCS vol. 2130, Springer 2001
- 196) **Stephan, V., Gross, H.-M.** A Neural Architecture for Expectation Driven Detection of Moving Objects During Egomotion. in: *Proc. IEEE Int. Joint Conf. on Neural Networks (IJCNN)*, Washington, pp. 2165-2170, IEEE 2001
- 197) **Stephan, V., Gross, H.-M., Anschuetz, M.** Neural Anticipative Architecture for Expectation Driven Perception. in: *IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Tucson (USA), pp. 2275-2280, IEEE, 2001
- 198) **Surmeli, D., Gross, H.-M.,** W-Learning for Behavior Coordination on a Real Khepera. in: *Int. Conference on Autonomous Minirobots for Research and Edutainment (AMiRE)*, Paderborn, pp. 161-169, HNI-Verlagsschriftenreihe 2001
- 199) **Corradini, A., Gross, H.-M.** Camera-based Gesture Recognition for Robot Control. in: *Proc. IEEE-INNS-ENNS Int. Joint Conf. on Neural Networks (IJCNN)*, Como, Italy, 2000, pp. IV 133-138, IEEE 2000
- 200) **Corradini, A., Gross, H.-M.** Implementation and Comparison of three Architectures for Gesture Recognition. in: *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, Istanbul 2000, pp. IV 2361-2364, IEEE 2000
- 201) **Gross, H.-M., Boehme, H.-J.** PERSES - A Vision-Based Interactive Mobile Shopping Assistant. in: *Proc. IEEE Int. Conf. on Systems, Man and Cybernetics (SMC)*, Nashville, pp. 80-85, IEEE 2000
- 202) **Gross, H.-M., Boehme, H.-J.** PERSES - A Vision-Based Interactive Mobile Shopping Assistant: Scenario, Behavior-Based Control Architecture and First Results. in: *Proc. Int. Conf. on Cognitive and Neural Systems (ICNS)*, Boston, 2000, pp. 29, Boston University Press
- 203) **Heinze, A., Gross, H.M.** Visually Guided Local Navigation Based on Visuomotor Representations in a Hyper Fuzzy ART-Architecture. in: *Proc. Int. Conf. on Cognitive and Neural Systems (ICNS)*, Boston, 2000, pp. 36, Boston University Press
- 204) **Schauer, C., Zahn, Th., Paschke, P., Gross, H.-M.** Binaural Sound Localization in an Artificial Neural Network. in: *IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP)*, Istanbul 2000, pp. II 865-868, IEEE 2000
- 205) **Schauer, C., Zahn, Th.P., Paschke, P., Gross, H.-M.** A Model of Binaural Sound Localization in Real Environs. in: *Proc. European Meeting on Cybernetics and Systems Research (EMCSR)*, Vienna, 2000, vol. 2, pp. 559-563, Austrian Society for Cybernetic Studies, 2000
- 206) **Stephan, V., Gross, H.-M., Debes, K., Wintrich, F., Wintrich, H.** Reinforcement-Learning-Based Control Scheme for a Visually Guided Combustion Process. in: *Proc. European Meeting on Cybernetics and Systems Research (EMCSR)*, Vienna, 2000, vol. 2, pp. 555-558, Austrian Society for Cybernetic Studies, 2000
- 207) **Stephan, V., Gross, H.M.** A Neural Architecture for Anticipation of Optical Flow Field Sequences. in: *Proc. Int. Conf. on Cognitive and Neural Systems (ICNS)*, Boston, 2000, pp. 37, Boston University Press
- 208) **Stephan, V., Debes, K., Gross, H.-M., Wintrich, F., Wintrich, H.** A Reinforcement Learning Based Neural Multi-Agent-System for Control of a Combustion Process. in: *Proc. IEEE-INNS-ENNS Int. Joint Conf. on Neural Networks (IJCNN)*, Como, Italy, 2000, pp. VI 217-222, IEEE 2000
- 209) **Stephan, V., Winkler, T., Gross, H.-M.** Fast and Robust Prediction of Optical Flow Field Sequences for Visuomotor Anticipation. in: *Proc. IEEE-INNS-ENNS Int. Joint Conf. on Neural Networks (IJCNN)*, Como, Italy, 2000, pp. V 436-441, IEEE 2000
- 210) **Surmeli, D., Gross, H.M.** Benchmarking Reinforcement Learning Based on Neural Function Approximators. in: *Proc.Int. Conf. on Cognitive and Neural Systems (ICNS)*, Boston, 2000 p. 22, Boston University Press
- 211) **Boehme, H.-J., Braumann, U.-D., Corradini, A., Gross, H.-M.** Person Localization and Posture Recognition for Human-Robot Interaction. in: *The International Gesture Workshop, Gif-sur-Yvette, France 1999*, LNAI, vol. 1739, pp. 105-116, Springer
- 212) **Corradini, A., Boehme, H.-J., Gross, H.-M.** Visual-Based Posture Recognition Using Hybrid Neural Networks. in: *Proc. of the European Symposium on Artificial Neural Networks (ESANN)*, Bruges, pp. 81-86, D-Facto Publications 1999
- 213) **Corradini, A., Gross, H.-M.** Gesture Recognition Using Hybrid SOM/DHMM. in: *Proc. of the Italian Workshop on Neural Nets (WIRN)*, Vetri Sul Mare (Italien), pp. 317-322
- 214) **Corradini, A., Braumann, U.-D., Boehme, H.-J., Gross, H.-M.** Hybrid Neural Networks to Recognize Body Postures in Human-Computer Interaction. in: *Proc. of the Int. Conf. on Neural Computation in Science and Technology (NCST)*, Israel, 1999, pp. A3/4
- 215) **Corradini, A., Gross, H.-M.** A Hybrid Stochastic-Connectionist Architecture for Gesture Recognition. in: *Proc. Int. Conf. on Intelligence, Information and Systems (ICIIS)*, Washington 1999, pp. 336-341, IEEE
- 216) **Erler, A., Debes, K., Gross, H.-M.** Neurofuzzy Architecture for Local Navigation and Obstacle Avoidance for the Mobile Robot MILVA. in: *Int.*

- Workshop Fuzzy-Neuro-Systems (FNS), Leipzig*, pp. 75-82, Leipziger Universitätsverlag 1999
- 217) **Gross, H.-M., Heinze, A., Stephan, V., Surmeli, D.** Biologically Inspired Architectures for Anticipation Based Sensorimotor Perception. in: *Proc. Int. Conf. on Cognitive and Neural Systems (ICCNS), Boston*, p. 29, Boston University Press 1999 (Abstract only)
- 218) **Heinze, A., Stephan, V., Surmeli, D., Gross, H.-M.** A Cortical Architecture for Parallel Anticipation of Sensorimotor Sequences. in: *Proc. of the Int. Conference on Artificial Neural Networks (ICANN), Edinburgh, 1999*, pp. 407-412
- 219) **Pomierski, T., Gross, H.-M.** Physiological Color Space for Automatic Color Normalization by Neural Processing. in: *Proc. Int. Workshop "Neural Networks in Applications" (NN), Magdeburg*, p. 61, ISBN 3-930385-20-1
- 220) **Weber, St., Krabbes, M., Stephan, V., Boehme, H.-J., Gross, H.-M.** Feature-Based Image Segmentation for Indoor Robot-Navigation. in: *Int. Workshop Fuzzy-Neuro-Systems (FNS), Leipzig*, pp. 179-186, Leipziger Universitätsverlag
- 221) **Boehme, H.-J., Brakensiek, A., Braumann, U.-D., Krabbes, M., Gross, H.-M.** Neural Networks for Gesture-Based Remote Control of a Mobile Robot. in: *IEEE Int. Joint Conf on Neural Networks(IJCNN) and IEEE World Conf. on Computational Intelligence (WCCI), Anchorage*, pp. 372-377, IEEE 1998
- 222) **Boehme, H.-J., Braumann, U.-D., Brakensiek, A., Corradini, A., Krabbes, M., Gross, H.-M.** User Localisation for Visually-Based Human-Machine Interaction. in: *Proc. IEEE Int. Conf. on Face and Gesture Recognition (FG), Nara, Japan*, pp. 486-491, IEEE 1998
- 223) **Boehme, H.-J., Brakensiek, A., Braumann, U.-D., Krabbes, M., Gross, H.-M.** Neural Architecture for Gesture-Based Human-Machine-Interaction. in: *Proc. Bielefeld Gesture Workshop (GW), September 1997*, LNCS vol. 1371, pp. 219-232, Springer 1998
- 224) **Brakensiek, A., Braumann, U.-D., Corradini, A., Boehme, H.-J., Gross, H.-M.** Neuronale Verfahren zur Lokalisation und Bewertung von Handgesten in Real-World-Szenen. in: *Proc. of the Int. Workshop on Neural Networks (NN) Magdeburg 1998*, pp. 211-218
- 225) **Braumann, U.-D., Brakensiek, A., Boehme, H.-J., Gross, H.-M.** Gaborfilterbasierte visuelle Personenlokalisierung mit dreidimensionalen Feldern dynamischer Neuronen. in: *Int. Workshop on Neural Networks (NN), Magdeburg 1998*, pp. 31-38
- 226) **Corradini, A., Braumann, U.-D., Brakensiek, A., Krabbes, M., Boehme, H.-J., Gross, H.-M.** Visual Person Localization with Dynamic Neural Fields: Towards a Gesture Recognition System. in: *in:Italian Workshop on Neural Nets (WIRN), Vietri Sul Mare 1998*, pp. 201-206
- 227) **Corradini, A., Braumann, U.-D., Boehme, H.-J., Gross, H.-M.** 3D Neural Fields and Steerable Filters for Contour-Based Person Localization. in: *Proc. Workshop on Virtual Intelligence and Dynamic Neural Networks, (VI-DYNN)*, pp. 476-485, 1998
- 228) **Corradini, A., Braumann, U.-D., Boehme, H.-J., Gross, H.-M.** Contour-Based Person Localization by 3D Neural Fields and Steerable Filters. in: *Proc. IAPR Workshop on Machine Vision Applications (MVA), Chiba (Japan)*, pp. 93-96
- 229) **Gross, H.-M., Stephan, V., Krabbes, M.** A Neural Field Approach to Topological Reinforcement Learning in Continuous Action Spaces. in: *IEEE Int. Joint Conf on Neural Networks(IJCNN) and IEEE World Conference on Computational Intelligence Anchorage (WCCI)*, pp. 1992-1997, IEEE 1998
- 230) **Gross, H.-M., Stephan, V., Seiler, T.** Neural Architecture for Sensorimotor Anticipation. in: *Europ. Meeting on Cybernetics and Systems Research (EMCSR), Vienna*, pp.593-598, 1998
- 231) **Hamker, F. H., Gross, H.-M.** A Lifelong Learning Approach for Incremental Neural Networks. in: *Europ. Meeting on Cybernetics and Systems Research (EMCSR), Vienna*, pp. 599-604, 1998
- 232) **Koehler, G., Surmeli, D., Gross, H.-M.** The State of Traumatic Coma Patient can be Visualized by Means of a SOM. in: *ECAI-Workshop on Intelligent Data Analysis in Medicine and Pharmacology (IDAMAP), , pp. 82-85, Brighton 1998*
- 233) **Seiler, T., Stephan, V., Gross, H.-M.** Perception and Action Selection by Anticipation of Sensorimotor Consequences. in: *Proc. Europ. Symposium on Artificial Neural Networks (ESANN)*, pp. 345-350, D-Facto Publications Brussels 1998
- 234) **Surmeli, D., Koehler, G., Gross, H.-M.** Medically Motivated Testbed for Reinforcement Learning in Neural Architectures. in: *Int. Workshop on Fuzzy-Neuro-Systems (FNS), Munich*, pp. 344-351, Proceedings in Artificial Intelligence, infix 1998
- 235) **Hamker, F. H., Gross, H.-M.** Object Selection with Dynamic Neural Maps. in: *Int. Conf. on Artificial Neural Networks (ICANN), Lausanne October 1997*, LNCS, vol. 1327, pp. 919-924, Springer 1997
- 236) **Krabbes, M., Boehme, H.-J., Stephan, V., Gross, H.-M.** Extension of the ALVINN-Architecture for Robust Visual Guidance of a Miniature Robot. in: *in:Euromicro Workshop on Advanced Mobile Robots (EUROBOT), Brescia (Italy)*, pp. 8-14, IEEE 1997
- 237) **Pomierski, T., Gross, H.-M.** Biological Neural Architectures for Human Color Perception and Adaptation Realizing Color Constancy. in: *Proc. of Conf. of the International Color Association on Color (AIC), Kyoto (Japan)*, pp. 505-508, The Color

- Science Association Press, 1997
- 238) **Gross, H.-M., Stephan, V., Boehme, H.-J.** Sensory-Based Robot Navigation Using Self-Organizing Networks and Q-Learning. in: *Proc. World Congress on Neural Networks(WCNN), September 1996, San Diego, USA*, pp. 94-99, Lawrence Erlbaum Associates, Inc., Publishers 1996
- 239) **Hamker, F. H., Gross, H.-M.** Region Finding for Attention Control in Consideration of subgoals. in: *IEEE European Workshop Special Issue on Neurofuzzy (NEuroFuzzy), Prague, 1996*, pp. 305-313
- 240) **Hamker, F. H. Gross, H.-M.** Region Selection: Segmentation, Classification and Task Relevance in a Single Grouping Mechanism. in: *Proc. of IEEE Int. Conf. on Neural Networks (ICNN), Washington, DC (USA)*, pp. 1540-1545, IEEE 1996
- 241) **Hamker, F. H., Gross, H.-M.** Task Relevant Relaxation Network for Visuo-Motory Systems. in: *Proc. of Int. Conf. on Pattern Recognition(ICPR)*, Vienna 1996, pp. 406-410, IEEE, Los Alamitos 1996
- 242) **Herrnberger, B., Gross, H.-M.** Constrained Topological Mapping for Baseline Construction. in: *Int. Conf. on Neural Networks and their Applications (NEURAP), March 20-23, 1996, Marseilles (France)*, pp. 26-32, Presses de l'Imprimerie SEDIMM, Marseilles
- 243) **Pomierski, T., Gross, H.-M.** Biological Neural Architecture for Chromatic Adaptation Resulting in Constant Color Sensations. in: *Proc. IEEE Int. Conf. on Neural Networks (ICNN), Washington, DC, USA*, pp. 734-739, IEEE, 1996
- 244) **Zahn, Th. P., Gross, H.-M.** Pulse Propagating Network for Attention Based Separation of Acoustical Signals. in: *Workshop on Bio-Informatics and Pulspropagating Networks (BioNet)*, November 1996, pp. 100-108, GFAI 1996, ISBN 3-00-001107-2
- 245) **Boehme, H.-J., Braumann, U.-D., Heinke, D., Gross, H.-M.** A Neural Network Architecture for Scene Interpretation. in: *Proc. Annual Symposium on Neural Networks (SNN), Nijmegen*, pp. 173-176, Springer 1995
- 246) **Braumann, U.-D., Boehme, H.-J., Gross, H.-M.** An Episodic Knowledge Base for Object Understanding. in: *Proc. of European Symposium on Artificial Neural Networks (ESANN)*, Brussels, 1995, pp. 175-180
- 247) **Gross, H.-M., Heinke, D., Boehme, H.-J., Braumann, U.-D., Pomierski, T.** A Behaviour-Oriented Approach to an Implicit "Object-Understanding" in Visual Attention. in: *Proc. of IEEE Int. Conf. on Neural Networks (ICCN), Perth (Australia)*, pp. 657-662, IEEE 1995
- 248) **Herrenberger, B., Gross, H.-M.** Constraint Topological Maps for Baseline Construction. in: *Int. Conf. on Neural Networks and their Applications (NEURAP), December 13-15, Marseilles, France*
- 249) **Moeller, R., Gross, H.-M.** Possible Functional Roles of Bipartite Dendrites of Pyramidal Cells. in: *Proc. of Annual Symposium on Neural Networks (SNN), Nijmegen*, pp. 51-54, Springer 1995
- 250) **Boehme, H.-J., Braumann, U.-D., Gross, H.-M.** A Neural Network Architecture for Sensory Controlled Internal Simulation. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN) Sorrento, Italy*, Vol. 2, pp. 1189-1192, Springer 1994
- 251) **Gross, H.-M., Boehme, H.-J., Heinke, D., Pomierski, T., Moeller, R.** Self-Organizing a Behaviour-Oriented Interpretation of Objects in Active-Vision. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN) Sorrento, Italy*, pp. 58-61, Springer 1994
- 252) **Moeller, R., Gross, H.-M.** Perception through Anticipation. in: *Proc. From Perception to Action Conference (PerAc), Lausanne, Switzerland*, pp. 408-411, IEEE Los Alamitos, California 1994
- 253) **Moeller, R., Gross, H.-M.** A Learning Rule System for a Simple Model of Anticipation in Cortex. in: - *Proc. of the Göttingen Neurobiology Conference (GNC)*, p. 855, Georg Thieme Verlag, New York 1994
- 254) **Heinke, D., Gross, H.-M.** A Simple Selforganizing Neural Network Architecture for Selective Visual Attention. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN), Amsterdam 1993*, pp. 63-66, Springer 1993
- 255) **Moeller, R., Gross, H.-M.** Detection of Coincidences and Generation of Hypotheses – Proposal for an Elementary Cortical Function. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN), Amsterdam 1993*, pp. 67-69, Springer 1993
- 256) **Pomierski, T., Gross, H.-M., Wendt, D.** A Distributed Multicolumnar System for Primary Cortical Analysis of Real-World Scenes. in: *Proc. Int. Conf. on Artificial Neural Networks (ICANN), Amsterdam, 1993*, pp. 142-147, Springer 1993
- 257) **Boehme, H.-J., Koerner, E., Gross, H.-M., Moeller, R.** A Neural Network Architecture which Uses Cellular Automata to Get Context-Specific Associative Memory. *Proc. Int. Conf. on Artificial Neural Networks (ICANN) Brighton*, vol. 2, pp. 1381-1384, Elsevier Science Publishers B.V., North-Holland 1992
- 258) **Gross, H.-M., Koerner, E., Boehme, H.-J., Pomierski, T.** A Neural Network Hierarchy for Data and Knowledge Controlled Selective Visual Attention. *Proc. Int. Conf. on Artificial Neural Networks (ICANN) Brighton*, vol. 1, pp. 825-828, Elsevier Science Publishers B.V., North-Holland 1992
- 259) **Gross, H.-M., Koerner, E., Pomierski, T.** GNOM – A Modular Network Architecture for Adaptive Parallel-Sequential Pattern Recognition. in: *Proc. Int. Conf. on Artificial Neural Networks*

(ICANN), Helsinki, vol. 1, pp. 747-752, North-Holland 1991

- 260) **Koerner, E., Gross, H.-M., Boehme, H.-J.** Elementary Cognitive Mechanisms for Knowledge Based Image Interpretation. in: *Proc. Int. Workshop on Adaptive Learning and Neural Networks, Schloss Reinsburg, July 2-7*, pp. 163-181, Forschungsinstitut für Anwendungsorientierte Wissensverarbeitung – FAW Ulm 1991
- 261) **Gross, H.-M., Koerner, E., Richter, A.** A Multi-Layered Mutually Communicating Neural Network Module for Adaptive Pattern Classification. in: *Proc. Int. Symposium on Neural Networks and Neural Computing (Neuronet '90), Prague, Sept. 10-14*, pp. 101-103, 1990
- 262) **Koerner, E. Gross, H.-M., Shimizu, H.** Learning in Parallel-Sequential Neural Networks. in: *Int. Workshop on Neurocomputers and Attention, Moscow, Soviet Union, Sept 18-22*, Extended Abstracts pp. 50/51, 1989
- 263) **Koerner, E., Gross, H.-M., Shimizu, H., Tsuda, I.** The Firmware Model of a Neocortical Column as a Self-Regulating Control Structure for Autonomous Recognition and Learning. in: Ebeling, Peschel, (eds.), *Dynamical Networks*, Monograph Series in *Mathematical Ecology*, pp. 138-146, Akademie Verlag Berlin, 1989
- 264) **Koerner, E., Gross, H.-M., Richter, A., Shimizu, H.** Control of Sensory Processing – a Hypothesis on and Simulation of the Architecture of an Elementary Cortical Processor. in: *Int. Workshop on Parallel Processing by Cellular Automata and Arrays (Parcella '88)*, Lecture Notes in Computer Science (LNCS), vol. 342, pp. 291-297, Springer 1989

Reviewed National Conference and Workshop Papers

- 1) **Scheidig, A., Schuetz, B., Vorndran, A., Trinh, T.Q., Mayfarth, A., Gross, H.-M.** Roboterasistiertes Gangtraining: Wertung des erreichten Stands. in: *Proc. German AAL Congress (AAL), Germany*, pp. 7-12, VDE Verlag 2020
- 2) **Eisenbach, M., Stricker, R., Debes, K. Gross, H.-M.** Crack Detection with an Interactive and Adaptive Video Inspection System. in: *Arbeitsgruppentagung Infrastrukturmanagement, Duisburg, Germany*, pp. 94-103, 2017
- 3) **Eisenbach, M., Seichter, D., Gross, H.-M.** Are Color Features Important for Person Detection? - Insights into Features Learned by Deep Convolutional Neural Networks. in: *Proc. Workshop Farbbildverarbeitung (FWS), Ilmenau, Germany*, pp. 169-182
- 4) **Gross, H.-M., Scheidig, A., Eisenbach, M., Trinh, T. Q., Wengefeld, T.** Assistenzrobotik

für die Gesundheitsassistenten - ein Beitrag zur Evaluierung der Praxistauglichkeit am Beispiel eines mobilen Reha-Roboters. in: *German AAL Conference (AAL), Frankfurt, Germany*, pp. 58-67, VDE Verlag 2016

- 5) **Wengefeld, T.; Lewandowski, B.; Gross, H.-M.** Detektion gestürzter Personen in häuslicher Einsatzumgebung. in: *em Proc. Innteract Conference 2016, Chemnitz*, 10 Seiten
- 6) **Scheidig, A., Debes, K., Mueller, St., Schroeter, Ch., Volkhardt, M., Gross, H.-M., Richter, K., Doering, N.** SERROGA: Funktions- und Nutzertests Herangehensweise und Ergebnisse in: *German AAL Conference (AAL), Frankfurt, Germany*, pp. 34-43, VDE Verlag 2015
- 7) **Scheidig, A., Einhorn, E., Weinrich, Ch., Eisenbach, M., Mueller, St., Schmiedel, Th., Wengefeld, T., Trinh, Th., Gross, H.-M., Bley, A., Scheidig, R., Pfeiffer, G., Meyer, S., Oelkers, S.** Robotischer Reha-Assistent zum Lauftraining von Patienten nach Schlaganfall: Erste Ergebnisse zum Laufcoach in: *German AAL Conference (AAL), Frankfurt, Germany*, pp. 436-445, VDE Verlag 2015
- 8) **Scheidig, A., Schroeter, Ch., Volkhardt, M., Mueller, St., Debes, K., Gross, H.-M., Doering, N., Richter, K.** SERROGA: Servicerobotik für die Gesundheitsassistenten im nutzerzentrierten Entwurf. in: *Proc. of German AAL Conference (AAL), Berlin, Germany*, 8 pages, VDE Verlag 2014
- 9) **Schroeter, Ch., Mueller, S., Volkhardt, M., Einhorn, E., Gross, H.-M., Huijnen, C., van den Heuvel, H., van Berlo, A., Bley, A.** CompanionAble - Ein robotischer Assistent und Begleiter für Menschen mit leichter kognitiver Beeinträchtigung. in: *Proc. of German AAL Conference (AAL), Berlin, Germany*, 8 pages, VDE Verlag 2014
- 10) **Stricker, R., Mueller, St., Gross, H.-M.** Comparison of Face Segmentation Methods for Non-Contact Video-Based Pulse Rate Measurement. in: *Proc. Workshop Farbbildverarbeitung (FWS), Wuppertal*, pp. 161-174, 2014
- 11) **Eisenbach, M., Scheiner, P., Kolarow, A., Schenk, K., Gross, H.-M., Weinreich, I.** Learning Illumination Maps for Color Constancy in Person Reidentification. in: *Proc. Workshop Farbbildverarbeitung (FWS)*, 12 pages, 2013
- 12) **Lanz, C., Denzler, J., Gross, H.-M.** Mimikryfunktionen: Konzeption eines therapiebegleitenden Trainingssystems. in: *Proc. of German AAL Conference (AAL), Berlin, Germany*, pp. 186-195, VDE Verlag 2013
- 13) **Geue, P.O., Scheidig, A., Gross, H.-M.** Entwicklung eines Robotischen Bewegungsassistenten für den Langzeiteinsatz zur physischen Aktivierung von Senioren. in: *Proc. 5. Deutscher AAL-Kongress 2012*, 5 pages

- 14) **Einhorn, E., Schröter, Ch., Gross, H.-M.** Building 2D and 3D Adaptive-Resolution Occupancy Maps Using ND-Trees. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 306-311, Verlag ISLE 2010
- 15) **Helsper, S., Gross, H.-M.** Estimating Light Regions in Indoor Environments for a Mobile Robot Cameraman. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 33-37, Verlag ISLE 2010
- 16) **Kessler, J., Gaudig, Ch., Schroeter, Ch., Gross, H.-M.** What is different? - Modeling the Changeability of the Environment. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 294-299, Verlag ISLE 2010
- 17) **Mueller, St., Schroeter, Ch., Gross, H.-M.** Aspects of User Specific Dialog Adaptation for an Autonomous Robot. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 635-640, Verlag ISLE 2010
- 18) **Stricker, R., Hommel, S., Martin, Ch., Gross, H.-M.** Realtime User Attention and Emotion Estimation on a Mobile Robot. in: *Proc. Int. Scientific Colloquium Ilmenau(IWK), Germany, 2010*, pp. 629-634, Verlag ISLE 2010
- 19) **Volkhardt, M., Mueller, St., Schroeter, Ch., Gross, H.-M.** Real-Time Activity Recognition on a Mobile Companion Robot. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 612-617, Verlag ISLE 2010
- 20) **Weinrich, Ch., Mueller, St., Gross, H.-M.** Appearance-Based Person Tracking and 3D Pose Estimation of Upper-Body and Head. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2010*, pp. 606-611, Verlag ISLE 2010
- 21) **Einhorn, E., Schroeter, Ch., Boehme, H.-J., Gross, H.-M.** A Hybrid Kalman Filter Based Algorithm for Real-Time Visual Obstacle Detection. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. II, pp. 353-358, Universitaetsverlag 2007
- 22) **Hellbach, S., Lau, B., Eggert, J. P., Koerner, E., Gross, H.-M.** Multi-Cue Motion Segmentation. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. II, pp. 327-332, Universitaetsverlag 2007
- 23) **Mueller, St., Scheidig, A., Ober, A., Gross, H.-M.** Making Mobile Robots Smarter by Probabilistic User Modeling and Tracking. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. I, pp. 451-456, Universitaetsverlag 2007
- 24) **Schenderlein, M., Debes, K., Koenig, A., Gross, H.-M.** Appearance-Based Visual Localisation in Outdoor Environments with an Omnidirectional Camera. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. I, pp. 431-436, Universitaetsverlag 2007
- 25) **Schroeter, Ch., Gross, H.-M.** Efficient Gridmaps for SLAM with Rao-Blackwellized Particle Filters. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. I, pp. 445-450, Universitaetsverlag 2007
- 26) **Schroeter, Ch., Hoechemer, M., Gross, H.-M.** A Particle Filter for the Dynamic Window Approach to Mobile Robot Control. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. I, pp. 425-430, Universitaetsverlag 2007
- 27) **Steege, F.-F., Martin, Ch., Gross, H.-M.** Recent Advances in the Estimation of Pointing Poses on Monocular Images for Human-Robot Interaction. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), Germany, 2007*, Vol. I, pp. 59-64, Universitaetsverlag 2007
- 28) **Kuhl, A., Woehler, Ch., Krueger, L., d'Angelo, P., Gross, H.-M.** Monocular 3D Scene Reconstruction at Absolute Scales by Combination of Geometric and Real-Aperture Methods. in: *Pattern Recognition - Proc. Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), Symposium, Berlin, Germany, LNCS Vol. 4174*, pp. 607-616, Springer, 2006
- 29) **Brueckmann, R., Scheidig, A., Martin, Ch., Gross, H.-M.** Integration of a Sound Source Detection into a Probabilistic-based Multimodal Approach for Person Detection and Tracking. in: *Proc. Autonomous Mobile Systems (AMS), Stuttgart*, pp. 131-137, Informatik aktuell, Springer 2005
- 30) **Boehme, H.-J., Wilhelm, T., Gross, H.-M.** Gesichtsanalyse für intuitive Mensch-Roboter-Interaktion. in: *Proc. Autonomous Mobile Systems (AMS), Stuttgart*, pp. 67-73, Informatik aktuell, Springer 2005
- 31) **Schauer, C., Zschenker, H., Debes, K., Gross, H.-M., Solbrig, O.** Independent Component Analysis für die Bewertung von EKG-Daten zur Schlagvolumenbestimmung. in: *Proc. Jahrestagung der Deutschen Gesellschaft für Biomedizinische Technik (DGBMT), 2004*, pp. 346-347, Band 49, Ergänzungsband 2, Fachverlag Schiele & Schön 2004
- 32) **Wender, St., Loehlein, O., Gross, H.-M.** Multiple Classifier Cascade for Vehicle Occupant Monitoring Using an Omni-Directional Camera. in: *Proc. Workshop on Self-Organization of Adaptive Behavior (SOAVE) 2004, Ilmenau*, pp.37-46, Fortschritt-Berichte VDI, Reihe 10, Nr. 743, VDI-Verlag 2004
- 33) **Koenig, A., Moser, S. D., Gross, H.-M.** Untersuchung alternativer Farbmerkmale für die visuelle Monte-Carlo-Selbstlokalisierung für mobile Roboter. in: *Proc. Workshop Farbbildverarbeitung (FWS), 2003*, pp. 51-58, Schriftenreihe ZBS (ISSN 1432-3346)
- 34) **Koenig, A., Moser, S.D., Gross, H.-M.** Farbhistogramm-basierte visuelle Monte-Carlo

- Lokalisation für Mobile Roboter. in: *Proc. Autonome Mobile Systeme (AMS), Karlsruhe*, pp. 214-222, Informatik aktuell, Springer 2003
- 35) **Wilhelm, T., Kludas, J., Boehme, H.J., Gross, H.-M.** Automatischer Weißabgleich für eine omnidirektionale Kamera. in: *Proc. Workshop Farbbildverarbeitung (FWS), 2003*, pp. 43-50, Schriftenreihe ZBS (ISSN 1432-3346)
- 36) **Boehme, H. J., Wilhelm, T., Schroeter, Ch., Gross, H.-M.** PERSES - ein interaktiver Einkaufsassistent. in: *Robotik: Leistungsstand - Anwendungen - Visionen - Trends (ROBOTIK)*, VDI-Berichte 1679, pp. 641-646, VDI-Verlag 2002
- 37) **Schroeter, Ch., Koenig, A., Gross, H.-M.** Farbbild-basierte Monte-Carlo-Selbstlokalisierung für mobile Roboter. in: *Proc. Workshop Farbbildverarbeitung (FWS), pp. 111-118, ZBS Ilmenau, ISSN 1432-3346*
- 38) **Stephan, V., Debes, K. Gross, H.-M., Wintrich, F.** Beschreibung von Verbrennungszuständen mittels farbbildbasierten Eigenflames. in: *Proc. Workshop Farbbildverarbeitung (FWS), pp. 119-126, ZBS Ilmenau, ISSN 1432-3346*
- 39) **Wilhelm, T., Boehme, H.-J., Gross, H.-M.** Wechselseitige Unterstützung von sonar-basiertem und visuellem Personentracking. in: *Robotik: Leistungsstand - Anwendungen - Visionen - Trends (ROBOTIK)*, VDI-Berichte 1679, pp. 575-580, VDI-Verlag 2002
- 40) **Boehme, H.-J., Hempel, T., Schroeter, Ch., Wilhelm, T., Key, J., Gross, H.-M.** Multimodale Mensch-Maschine-Interaktion für Servicerobotik-Systeme. in: *Proc. Autonomous Mobile Systems (AMS), Stuttgart*, pp. 113-119, Informatik aktuell, Springer 2001
- 41) **Boehme, H.J., Gross, H.-M., Key, J., Wilhelm, T.** PERSES - a PERSONal SERVICE System. in: *Proc. Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau*, Fortschritt-Berichte VDI, Reihe 10: Informatik/Kommunikation, Nr. 643; pp. 57-66, VDI-Verlag 2000
- 42) **Debes, K., Stephan, V., Gross, H.-M., Wintrich, H., Wintrich, F.** Farbbildbasierte Prozessführung in der Kohlenstaubfeuerung mittels Reinforcement-Lernverfahren. in: *Proc. Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau*, Fortschritt-Berichte VDI, Reihe 10: Informatik/Kommunikation, Nr. 643; pp. 155-163, VDI-Verlag 2000
- 43) **Koenig, A., Key, J., Gross, H.-M.** Visuell basierte Monte-Carlo-Lokalisierung für mobile Roboter mit omnidirektionalen Kameras. in: *Proc. Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau*, Fortschritt-Berichte VDI, Reihe 10: Informatik/Kommunikation, Nr. 643; pp. 31-38, VDI-Verlag 2000
- 44) **Stephan, V., Debes, K., Gross, H.-M., Wintrich, H., Wintrich, F.** Farbbildbasierte Flammendiagnose zur Führung von Kohlenstaubfeuerungsprozessen. in: *Proc. Computational Intelligence (CI), Baden-Baden, Mai 2000*, VDI-Berichte 1526, pp. 251-256, VDI-Verlag 2000
- 45) **Stephan, V., Gross, H.-M.** Improvement of Optical Flow Estimates by Visuomotor Anticipation. in: *Proc. Workshop on Dynamic Perception (DynPer), Ulm, 2000*, pp. 191-194, Akademische Verlagsgesellschaft / infix 2000
- 46) **Wilhelm, T., Gross, H.-M.** A Behavior-Based Dynamic Control Architecture for a Mobile Shopping Assistant. in: *Proc. Workshop on Dynamic Perception (DynPer), Ulm, 2000*, pp. 191-194, Akademische Verlagsgesellschaft / infix 2000
- 47) **Boehme, H.-J., Gross, H.-M.** Ein interaktives mobiles Service-System für den Baumarkt. in: *Autonomous Mobile Systems (AMS), München*, pp. 344-351, Informatik aktuell, Springer 1999
- 48) **Weber, St., Krabbes, M., Stephan, V., Boehme, H.-J., Gross, H.-M.** Feature-Based Image Segmentation for Indoor Robot-Navigation. in: *Int. Workshop Fuzzy-Neuro-Systems (FNS), Leipzig, 1999*
- 49) **Brakensiek, A., Braumann, U.-D., Böhme, H.-J., Gross, H.-M.** Neuronale Verfahren zur Mensch-Roboter-Interaktion: Personenlokalisierung und Gestenerkennung. in: *Proc. Int. Scientific Colloquium (IWK), Ilmenau, 1998*, pp. 633-38
- 50) **Braumann, U.-D., Corradini, A., Böhme, H.-J., Gross, H.-M.** Konturbasierte Personenlokalisierung mittels dreidimensionaler neuronale Felder und steuerbarer Filter. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), 1998*, ser. Informatik aktuell, pp. 385-392, Springer 1998
- 51) **Gross, H.-M., Stephan, V., Seiler, T.** Perception and Sensorimotor Control - as Internal Anticipation Process. in: *Int. Workshop on Dynamic Perception (DynPer), Bielefeld, Juni 1998*, Proceedings in Artificial Intelligence, vol. 8, pp. 63-70, infix 1998
- 52) **Hamker, F. H., Gross, H.-M.** Ein neuronales Modell der visuellen Suche als paralleler Wettbewerb. in: *Tübinger Wahrnehmungskongress (TWK)*, pp. 119, 1998
- 53) **Heinze, A., Debes, K., Gross, H.-M.** Farbbildbasierte Diagnose von Flammenfeldern in der Kohlenstaubfeuerung. in: *Workshop Farbbildverarbeitung (FWS), 17.-18.9.1998, Koblenz*, ser. Schriften zur Informatik, vol. 9, pp. 121-27, fölbach-Verlag
- 54) **Heinze, A., Debes, K., Gross, H.-M.** Visuelle Diagnose von Flammenfeldern in der Kohlenstaubfeuerung. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), Stuttgart, 1998*, ser. Informatik aktuell, pp. 497-504, Springer 1998

- 55) **Krabbes, M., Weber, St., Böhme, H.-J., Gross, H.-M.** Monokulare visuelle Hindernisdetektion auf Basis merkmalsbasierter Bildsegmentierung. in: *Autonomus Mobile Systems (AMS), Karlsruhe, 1998*, pp. 85-92, Springer 1998
- 56) **V. Stephan, T. Seiler, H.-M. Gross** Vorhersage von optischen Flussfeldern zur antizipativen Navigation. in: *Int. Workshop on Dynamic Perception (DymPer), Bielefeld, 1998*, Proceedings in Artificial Intelligence, pp. 151-158, infix 1998
- 57) **Boehme, H.-J., Brakensiek, A., Braumann, U.-D., Krabbes, M., Gross, H.-M.** Visually-Based Human-Machine-Interaction in a Neural Architecture. in: *Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau, 1997*, Fortschrittberichte VDI, Reihe 8, pp. 166-175, VDI 1997
- 58) **Brakensiek, A., Braumann, U.-D., Boehme, H.-J., Rieck, C., Gross, H.-M.** Farb- und strukturbasierte neuronale Verfahren zur Lokalisierung von Gesichtern in Real-World-Szenen. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), Braunschweig, 1997*, pp. 113-120, Informatik aktuell, Springer 1997
- 59) **Braumann, U.-D., Brakensiek, A., Boehme, H.-J., Gross, H.-M.** Ein neuronales Verfahren zur Segmentierung hautfarbener Bildregionen. in D. Paulus, Th. Wagner (Eds.): *Workshop Farbbildverarbeitung (FWS) 1997, Erlangen*, pp. 67-72 & 101, IRB-Verlag Stuttgart 1997
- 60) **Gross, H.-M., Boehme, H.-J.** Verhaltensorganisation in interaktiven und lernfähigen mobilen Systemen – das MILVA Projekt. *Workshop on Self-Organisation of Adaptive Behavior (SOAVE), Ilmenau, 1997*, Fortschrittberichte VDI, Reihe 8, pp. 1-13, VDI 1997
- 61) **Hamker, F. H., Pomierski, T., Gross, H.-M., Debes, K.** Ein visuomotorisches System auf der Basis von Farbmerkmalen. *Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau, 1997*, Fortschrittberichte VDI, Reihe 8, pp. 232-238, VDI 1997
- 62) **Hamker, F. H., Gross, H.-M.** Task-Based Representation in Lifelong Learning Incremental Neural Networks. *Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau, 1997*, Fortschrittberichte VDI, Reihe 8, pp. 99-108, VDI 1997
- 63) **Krabbes, M., Boehme, H.-J., Stephan, V., Gross, H.-M.** Handlungsorganisation Intentionaler Neuronaler Agenten. in: *Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau, Fortschrittberichte VDI, Reihe 8, pp. 35-44, VDI 1997*
- 64) **Krabbes, M., Boehme, H.-J., Stephan, V., Gross, H.-M.** Handlungsorganisation mittels Intentionaler Neuronaler Agenten. in P. Levi, Th. Bräunl, N. Oswald (Eds.): *in: Autonome Mobile Systeme (AMS)*, pp. 154-65, Informatik aktuell, Springer 1997
- 65) **Seiler, T., Stephan, V., Heinze, A., Gross, H.-M.** Handlungsauswahl durch Antizipation sensorischer Konsequenzen. in: *Workshop on Self-Organization of Adaptive Behavior (SOAVE), Ilmenau, Fortschrittberichte VDI, Reihe 8, pp. 109-118, VDI 1997*
- 66) **Stephan, V., Gross, H.-M.** Formerhaltende sequentielle visuelle Aufmerksamkeit in columnar organisierten neuronalen Feldern. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), Braunschweig, 1997*, pp. 411-418, Informatik aktuell, Springer 1997
- 67) **Boehme, H.-J., Gross, H.-M., Braumann, U.-D., Heinke, D., Pomierski, T., Brakensiek, A.** Active-Vision zur Selbstorganisation von Verhalten in senso-motorischen Systemen. in: *GI Workshop Bildverstehen - Aktives Sehen in technischen und biologischen Systemen (GI), Hamburg, Proc. in Artificial Intelligence vol. 4, pp. 60-66, infix Sankt Augustin 1996*
- 68) **Hamker, F. H., Gross, H.-M.** Intentionale Aufmerksamkeit: ein alternatives Konzept für technische visuo-motorische Systeme. in: *GI Workshop Bildverstehen - Aktives Sehen in technischen und biologischen Systemen (GI), Hamburg, Proc. in Artificial Intelligence vol. 4, pp. 101-108, infix Sankt Augustin 1996*
- 69) **Pomierski, T., Gross, H.-M.** Neural Architecture for Chromatic Adaption of Single Images and Picture Sequences. in: *Workshop Farbbildverarbeitung (FWS), Ilmenau, 1996*, pp. 29-34, ISSN 1432-3346
- 70) **Stephan, V., Gross, H.-M., Heinze, A.** Extraktion handlungsrelevanter Merkmale aus Farbbildern zur Navigation eines mobilen Roboters. in: *Workshop Farbbildverarbeitung (FWS), Ilmenau, 1996*, pp. 7-10, ISSN 1432-3346
- 71) **Gross, H.-M., Hamker, F. H., Debes, K.** Visuelle Wahrnehmung im Handlungskontext - Ein visuomotorisches System als aktiv handelnder Agent. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), 1995, vol. 1, pp. 731-737*
- 72) **Moeller, R., Gross, H.-M.** Sensorische Repräsentationen - Schwachstelle von Wahrnehmungsmodellen. in: *Proc. of Workshop Artificial Life (AL), GMD, Sankt Augustin, 1995, GMD-Studien nr. 271, pp. 137-146*
- 73) **Pomierski, T., Gross, H.-M.** Verfahren zur empfindungsgemäßen Farbumstimmung. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK), 1995, vol. 1, pp. 749-754*
- 74) **Pomierski, T., Gross, H.-M.** Verfahren zur empfindungsgemäßen Farbumstimmung. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM), Bielefeld, pp. 473-480, Springer,*

Informatik aktuell

- 75) **Boehme, H.-J., Braumann, U.-D., Gross, H.-M.** A Neural Network Architecture for Episodic Feature Representation. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 11-18
- 76) **Debes, K., Gross, H.-M., Pomierski, T., Wintrich, F., Seifert, M.** Lernfähiges, multisensorielles integriertes Realzeit-Inspektionssystem für die Wertstoffsartierung. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 67-74
- 77) **Gross, H.-M., Heinke, D. Boehme, H.-J., Pomierski, T.** A Behaviour-Oriented Approach to an Object-understanding in Visual Attention. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 95-103
- 78) **Heinke, D., Gross, H.-M.** A Neural Network Architecture for Self-Organization of Object Understanding. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 124-131
- 79) **Herrnberger, B., Gross, H.-M.** Topology Preserving Maps for Baseline Detection in Chromatography. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 212-217
- 80) **Moeller, R., Gross, H.-M.** Detection of Complex Coincidences Using Coupled Learning Rules. in: *Proc. Int. Scientific Colloquium Ilmenau (IWK)*, 1994, pp. 232-237
- 81) **Pomierski, T., Gross, H.-M.** Feature Extraction using Self-Organizing Receptive Fields. in: *Proc. Int. Scientific Colloquium Ilmenau*, 1994, pp. 117-123
- 82) **Pomierski, T., Gross, H.-M., Wendt, D.** Ein verteiltes modulares System zur eigenvektorbasierten Analyse natürlicher Szenen mit selbstorganisierbaren rezeptiven Feldern. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM)*, Lübeck, pp. 281-288, Springer 1993
- 83) **Gross, H.-M., Franke, R., Boehme, H.-J., Beck, C.** A Neural Network Hierarchy for Data Driven and Knowledge Controlled Selective Visual Attention. in: *Symp. der Deutschen Arbeitsgemeinschaft zur Mustererkennung (DAGM)*, ser. Informatik aktuell, pp. 341-346, Springer 1992
- 84) **Boehme, H.-J., Gross, H.-M., Koerner, E.** Ein active-vision System zur wissensbasierten Bildinterpretation. in: *Int. Scientific Colloquium Ilmenau (IWK)*, 1991, S. 656-661
- 85) **Gross, H.-M.** Neuronale Netzwerke-Entwicklungstendenzen und Anwendungsgebiete. *13. KdT Informations- und Fachtagung Mikroelektronik'90, Suhl, 28.-30. März 1990*, Tagungsband S. 30-43
- 86) **Gross, H.-M., Koerner, E., Richter, A.** Modellierung und Simulation eines Mehrmodulsystems aus parallel verschalteten corticalen Columnen für die visuelle Informationsverarbeitung. in: *Kongreß '88 der Gesellschaft für Biomedizinische Technik und Informationsverarbeitung-Dresden*, Tagungs-material S. 159, 1988
- 87) **Koerner, E., Gross, H.-M.** Inhaltsabhängige Steuerung des sensorischen Informationsflusses- eine Hypothese zum elementaren corticalen Prozessor. in: *Int. Scientific Colloquium Ilmenau (IWK)*, Sonderheft Wissenschaftliche Zeitschrift der TH Ilmenau, A3, S. 145-148, 1988
- 88) **Schwind, J., Gross, H.-M.** Minimierung von Augenbewegungs- und Lidschlagartefakten bei der Ableitung ereignisbezogener Gleichspannungsschwankungen. in: *Kongreß '88 der Gesellschaft für Biomedizinische Technik und Informationsverarbeitung-Dresden*, Tagungsmaterial S. 54, 1988
- 89) **Gross, H.-M., Debes, K.** Neuronale Selbstorganisation – der Fundamentalprozeß des Denkens und Gedächtnisses. *Wissenschaftliche Zeitschrift der TH Ilmenau*, Vol. 33, S. 113-119, 1987

Books and Book Chapters

- 1) **Gross, H.-M., Debes, K., Boehme, H.J.** SOAVE 2004. *3rd Workshop on Self-Organization of Adaptive Behavior, Ilmenau, 2004*, Fortschritt-Berichte VDI, Reihe 10, Nr. 743, VDI-Verlag 2004
- 2) **Gross, H.-M., Boehme, H.-J., Debes, K.** SOAVE 2000 - *Selbstorganisation von adaptivem Verhalten*, Fortschritt-Berichte VDI, Reihe 10: Informatik/Kommunikation, Nr. 643; VDI-Verlag 2000
- 3) **Gross, H.-M.** SOAVE'97 - *Selbstorganisation von adaptivem Verhalten*, VDI-Fortschrittsberichte, Reihe 8, vol. 663, VDI-Verlag 1997
- 4) **Gross, H.-M., Moeller, R.** Neuroinformatik - neue Konzepte für autonom agierende Robotersysteme. In: N. Kraah (Ed.) *Technik und Gesellschaft in Ambivalenz*, pp. 177-193, Verlag für Akademische Schriften 1997

Patents

- 1) **Gross, H.-M., Scheidig, A., Trinh, T. Q., Schütz, B., Vorndran, A., Bley, A., Mayfarth, A., Arenknecht, R., Trabert, J., Martin, Ch., Sternitzke, Ch.** System for capturing the movement pattern of a person. *US Patent App. 17421098, Pub.No. US 2022/0108561 A1*, 7.4.2022
- 2) **Gross, H.-M., Scheidig, A., Vorndran, A., Tranh, T. Q., Schütz, B., Trabert, J., Bley, A., Martin, Ch., Arenknecht, R., Mayfarth, A., Sternitzke, Ch.** Verfahren und System zur Erfassung des Bewegungsablaufs einer Person. *PCT/EP2020/050200*, 7.1.2020
- 3) **Gross, H.-M., Scheidig, A., Vorndran, A., Tranh, T.Q., Schuetz, B., Trabert, J., Bley, A., Martin, Ch., Arenknecht, R., Mayfarth, A., Sternitzke, Ch.** Serviceroboter. *DE10 2019 116 848.1*, 21.6.2019

- 4) **Gross, H.-M., Scheidig, A., Vorndran, A., Tranh, T.Q., Schuetz, B., Trabert, J., Bley, A., Martin, Ch., Arenknecht, R., Mayfarth, A.** Serviceroboter. *DE 10 2019 100 228.1*, 7.1.2019
- 5) **M. Schürer, H.-M. Gross, E. Koerner.** Verfahren zur globalen syntaktischen Bildanalyse *Patentschrift DD-WP G06K /3380373*, 22.02.1990
- 6) **K. Debes, H.-M. Gross.** Schaltungsanordnung zur strukturorientierten Bildtransformation. *Patentschrift DD-WP 252 693*, 10.09.1986
- 7) **H.-M. Gross, A. Keller, K. Debes.** Verfahren zur retinaähnlichen Bildabtastung. *Patentschrift DD-WP 252718*, 10.09.1986
- 8) **H.-M. Gross, E. Koerner, K. Debes.** Anordnung zur forminvarianten Bildsignalerzeugung mittels Rotationssensor. *Patentschrift DD-WP 229566*, 07.12.1984