

Artur Koch



Background

- Since 12/2010: PhD candidate / research assistant at the Department of Cognitive Systems, University of Tübingen
- 11/2009 - 07/2010: Diploma thesis on "Fast and Scalable CPU/GPU Collision Detection for Rigid and Deformable Surfaces" (WSI/GRIS: Graphical-Interactive Systems Department at the Wilhelm Schickard Institute for Computer Science, [University of Tübingen](#))
- 10/2001 - 11/2010: Study of Computer Science at the [University of Tübingen](#) (Tübingen, Germany)

Research Interests

- Robot localization and mapping
- RFID: Radio Frequency Identification
- Collision Detection
- Parallel Processing (CPU/GPU)
- GPGPU: General Purpose Computing on Graphics Processing Units

Projects

- [AmbiSense](#) - Kooperation autonomer mobiler Systeme unter Berücksichtigung ambienter Sensoren

Publications

- [1] Artur Koch and Andreas Zell. RFID-enabled location fingerprinting based on similarity models from probabilistic similarity measures. In *IEEE International Conference on Robotics and Automation (ICRA)*, Stockholm, Sweden, May 2016. IEEE.
- [2] Lixing Jiang, Huimin Lu, My Vo Duc, Artur Koch, and Andreas Zell. Superpixel segmentation based gradient maps on RGB-D dataset. In *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, Zhuhai, China, December 2015.
- [3] Lixing Jiang, Artur Koch, and Andreas Zell. Salient regions detection for indoor robots using RGB-D data. In *IEEE International Conference on Robotics and Automation (ICRA)*, Seattle, USA, May 2015.
- [4] Lixing Jiang, Artur Koch, and Andreas Zell. Object recognition and tracking for indoor robots using an RGB-D sensor. In *International Conference on Intelligent Autonomous Systems (IAS-13)*, Padova, Italy, July 2014.
- [5] Artur Koch and Andreas Zell. Mapping of passive UHF RFID tags with a mobile robot using outlier detection and negative information. In *IEEE International Conference on Robotics and Automation (ICRA)*, Hong Kong, China, May 2014. IEEE.
- [6] Lixing Jiang, Artur Koch, Sebastian A. Scherer, and Andreas Zell. Multi-class fruit classification using RGB-D data for indoor robots. In *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, Shenzhen, China, December 2013.
- [7] Ran Liu, Artur Koch, and Andreas Zell. Mapping UHF RFID Tags with a Mobile Robot using 3D Sensor Model. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2013)*, Big Sight, Tokyo, Japan, November 2013.
- [8] Ran Liu, Artur Koch, and Andreas Zell. Path following with passive UHF RFID received signal strength in unknown environments. In *2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2012)*, Vilamoura, Algarve, Portugal, October 2012.
- [9] Philipp Vorst, Artur Koch, and Andreas Zell. Efficient self-adjusting, similarity-based location fingerprinting with passive UHF RFID. In *IEEE International Conference on RFID-Technology and Applications (RFID-TA2011)*, pages 160--167, Sitges, Barcelona, Spain, September 15-16 2011. IEEE. [[DOI](#)]

- [10] Ran Liu, Philipp Vorst, Artur Koch, and Andreas Zell. Path following for indoor robots with RFID received signal strength. In *The 19th International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2011)*, Split, Hvar, and Dubrovnik, Croatia, September 2011. (Best paper award at the Symposium on RFID Technologies and Internet of Things).
- [11] Simon Pabst, Artur Koch, and Wolfgang Straßer. Fast and scalable CPU/GPU collision detection for rigid and deformable surfaces. *Computer Graphics Forum*, 29(5):1605--1612, 2010. [[DOI](#)]

Diploma Thesis

- [1] Artur Koch. Fast and scalable CPU/GPU collision detection for rigid and deformable surfaces. Diplomarbeit, University of Tuebingen, July 2010.



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