Dr. Christian Weiss

Background

- 10/1999 - 04/2005: Study of Computer Science at the University of Tübingen
- 10/2004 - 04/2005: Diploma Thesis "Automatischer Aufbau von VR-Modellen von Gebäudeinnenräumen durch einen mobilen Roboter mit Laserscanner und Farbkamera"
- since 05/2005: research assistant at the Department of Computer Architecture, Eberhard-Karls-University Tübingen

Research Interests

- Outdoor Mobile Robots
- Terrain Classification
- Vision-based Self-Localization

Publications

A Dynamic Swarm for Visual Location Tracking
Marcel Kronfeld, Christian Weiss and Andreas Zell
in *Proceedings of the 6th International Conference on Ant Colony Optimization and Swarm Intelligence (ANTS 2008)*, Brussels, Belgium, September 22-24, 2008

A Combination of Vision- and Vibration-based Terrain Classification
Christian Weiss, Hashem Tamimi and Andreas Zell
in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2008)*, Nice, France, September 22-26, 2008, pp. 2204-2209

Novelty Detection and Online Learning for Vibration-based Terrain Classification
Christian Weiss and Andreas Zell
in *Proceedings of the 10th International Conference on Intelligent Autonomous Systems (IAS 2008)*, Baden-Baden, Germany, July 23-25, 2008, pp. 16-25

Integrated Scenario for Machine-Aided Inventory Using Ambient Sensors
Timo Schairer, Christian Weiss, Philipp Vorst, Jürgen Sommer, Christian Hoene, Wolfgang Rosenstiel, Wolfgang Straßer, Andreas Zell, Patrick Schneider, Annette Weisbecker and Georg Carle
in *Proceedings of the 4th European Workshop on RFID Systems and Technologies (RFID SysTech 2008)*, Freiburg, Germany, June 10-11, 2008

Indoor Positioning via Three Different RF Technologies
Philipp Vorst, Jürgen Sommer, Christian Hoene, Patrick Schneider, Christian Weiss, Timo Schairer, Wolfgang Rosenstiel, Andreas Zell and Georg Carle
in *Proceedings of the 4th European Workshop on RFID Systems and Technologies (RFID SysTech 2008)*, Freiburg, Germany, June 10-11, 2008

A Hybrid Approach for Vision-based Outdoor Robot Localization Using Global and Local Image Features
Christian Weiss, Hashem Tamimi, Andreas Masselli and Andreas Zell
in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2007)*, San Diego, CA, USA, October 29 - November 2, 2007, pp. 1047-1052

SVMs for Vibration-based Terrain Classification
Christian Weiss, Matthias Stark and Andreas Zell
in *Autonome Mobile Systeme (AMS 2007)*, Kaiserslautern, Germany, October 18-19, 2007, pp. 1-7

Appearance-based Robot Localization using Wavelets-PCA
Hashem Tamimi, Christian Weiss and Andreas Zell

in *Autonome Mobile Systeme (AMS 2007)*, Kaiserslautern, Germany, October 18-19, 2007, pp. 36-42

Comparison of Different Approaches to Vibration-based Terrain Classification
Christian Weiss, Nikolas Fechner, Matthias Stark and Andreas Zell
in *Proceedings of the 3rd European Conference on Mobile Robots (ECMR 2007)*, Freiburg, Germany, September 19-21, 2007, pp. 7-12

Swarm-supported Outdoor Localization with Sparse Visual Data
Marcel Kronfeld, Christian Weiss and Andreas Zell
in *Proceedings of the 3rd European Conference on Mobile Robots (ECMR 2007)*, Freiburg, Germany, September 19-21, 2007, pp. 259-264

Fast Vision-based Localization for Outdoor Robots Using a Combination of Global Image Features
Christian Weiss, Andreas Masselli and Andreas Zell
in *Proceedings of the 6th Symposium on Intelligent Autonomous Vehicles (IAV 2007)*, Toulouse, France, September 3-5, 2007

Fast Outdoor Robot Localization Using Integral Invariants
Christian Weiss, Andreas Masselli, Hashem Tamimi and Andreas Zell
in *Proceedings of the 5th International Conference on Computer Vision Systems (ICVS 2007)*, Bielefeld, Germany, March 21-24, 2007

Vibration-based Terrain Classification Using Support Vector Machines
Christian Weiss, Holger Fröhlich and Andreas Zell
in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2006)*, Beijing, China, October 9-15, 2006, pp. 4429 - 4434

Automatic Generation of Indoor VR-Models by a Mobile Robot with a Laser Range Finder and a Color Camera
Christian Weiss and Andreas Zell
in *Autonome Mobile Systeme (AMS 2005)*, Stuttgart, Germany, December 8-9, 2005, pp.107-113,
Springer, 2006

Diploma Thesis

Automatischer Aufbau von VR-Modellen von Gebäudeinnenräumen durch einen mobilen Roboter mit Laserscanner und Farbkamera (german)
C. Weiss
Diploma Thesis, University of Tübingen, 2005

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