Dr. Patrick Heinemann

Background

- since 2007 System engineer at Audi Electronics Venture GmbH (AUDI AG), Department "Image Processing Systems"
- 2003-2007 research assistant at the Dept. of Computer Architecture, University of Tübingen
- 2001-2002 researcher at DaimlerChrysler, Department "Assisting Systems"
- 2001 master thesis (Diplomarbeit) "Development of a multi-sensor object-detection system as a casestudy for a prototype-based analysis process" at DaimlerChrysler
- 1998-2001 Software developer at tecMedics GmbH
- 1996-2001 University of Kaiserslautern, M.S. (Diplom) in Technical Computer Science

Research interests

- vision, cooperative robotics, particularly RoboCup

Publications

Cooperative Multi-Robot Soccer in a Highly Dynamic Environment
P. Heinemann
Dissertation (PhD thesis), Logos-Verlag, Berlin, 2007.
ISBN: 978-3-8325-1778-6

A Novel Approach to Efficient Monte-Carlo Localization in RoboCup
P. Heinemann, J. Haase, and A. Zell
In G. Lakemeyer, E. Sklar, D. G. Sorrenti, and T. Takahashi, editors,
RoboCup 2006: Robot Soccer World Cup X,
Lecture Notes in Computer Science, Volume 4434.
Springer, 2007.

Towards a Calibration-Free Robot: The ACT Algorithm for Automatic Online Color Training
P. Heinemann, F. Sehnke, F. Streichert, and A. Zell
In G. Lakemeyer, E. Sklar, D. G. Sorrenti, and T. Takahashi, editors,
RoboCup 2006: Robot Soccer World Cup X,
Lecture Notes in Computer Science, Volume 4434.
Springer, 2007.

The Attempto Tübingen Robot Soccer Team 2006
P. Heinemann, H. Becker, J. Haase, and A. Zell
In G. Lakemeyer, E. Sklar, D. G. Sorrenti, and T. Takahashi, editors,
RoboCup 2006: Robot Soccer World Cup X,
Lecture Notes in Computer Science, Volume 4434, (CD-Supplement).
Springer, 2007.

A Combined Monte-Carlo Localization and Tracking Algorithm for RoboCup
P. Heinemann, J. Haase, and A. Zell
In *Proceedings of the 2006 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '06)*.
2006.

An Automatic Approach to Online Color Training in RoboCup Environments
P. Heinemann, F. Sehnke, F. Streichert, and A. Zell
In *Proceedings of the 2006 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '06)*.
2006.

Automatic Calibration of Camera to World Mapping in RoboCup using Evolutionary Algorithms

P. Heinemann, F. Sehnke, F. Streichert, and A. Zell
In *Proceedings of the IEEE International Congress on Evolutionary Computing (CEC 2006)*.
2006.

Improved Path Planning in Highly Dynamic Environments based on Time Variant Potential Fields
P. Heinemann, H. Becker, and A. Zell
In *Proceedings of the 37th International Symposium on Robotics (ISR 2006)*.
2006.

Verbesserte Effizienz der Monte-Carlo-Lokalisierung im RoboCup
P. Heinemann, J. Haase, and A. Zell
In P.Levi, M. Schanz, R. Lafrenz, and V. Avrutin, editors,
Autonome Mobile Systeme 2005, pp. 19-24.
Springer, 2005.

The Attempto Tübingen Robot Soccer Team
P. Heinemann, A. Treptow, and A. Zell
In E. Menegatti, A. Pretto, and E. Pagello, editors,
RoboCup-2004: Robot Soccer World Cup VIII,
Lecture Notes in Computer Science, Volume 3276, (CD-Supplement).
Springer, 2005.

Fast and Accurate Environment Modelling using Omnidirectional Vision
P. Heinemann, T. Rückstieß, and A. Zell
In U. Ilg, H. Bülthoff, and H. Mallot, editors,
Dynamic Perception, pp. 9-14.
Infix, 2004.

Tracking Dynamic Objects in a RoboCup Environment - The Attempto Tübingen Robot Soccer Team
P. Heinemann, M. Plagge, A. Treptow, and A. Zell
In D. Polani, B. Browning, A. Bonarini, and K. Yoshida, editors,
RoboCup-2003: Robot Soccer World Cup VII,
Lecture Notes in Computer Science, Volume 3020, (CD-Supplement).
Springer, 2004.

Infrared Sensors for Assisting Systems
P. Heinemann
Technical report, DaimlerChrysler AG, Stuttgart, 2002

Entwicklung einer Multi-Sensor Objekterkennung als Fallstudie für einen prototypbasierten Analyseprozess
P. Heinemann
Diplomarbeit (master thesis), Universität Kaiserslautern, 2001

Patents

Method and device for detecting an object in a motor vehicle environment
P. Heinemann, A. Schanz, A. Spieker
PCT International Application No.: PCT/EP2004/000844
Filed: 30 January 2004 (30.01.2004)

Verfahren und Vorrichtung zum Erfassen eines Objekts im Umfeld eines Kraftfahrzeugs
P. Heinemann, A. Schanz, A. Spieker
Patentanmeldung: 312611.2
Anmeldetag: 21.03.2003

Address, phone and fax number, email

Eberhard-Karls-Universität Tübingen

Wilhelm-Schickard-Institut für Informatik
Lehrstuhl Kognitive Systeme
Sand 1
D - 72076 Tübingen

Germany

Phone: (+49/0) 7071 / 29 78989
Fax: (+49/0) 7071 / 29 5091
Email: patrick.heinemann at audi.de