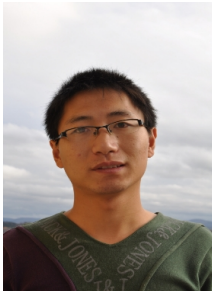
Dr. Ran Liu



Background

- From September 2003 - June 2007, Bachelor of Automation, Southwest University of Science and Technology, China
- From September 2007 - June 2010, Master of Control Theory and Control Engineering, Southwest University of Science and Technology, China
- From August 2010 - October 2010, Software developer at Hitoai, Chengdu, China
- October 2010 - December 2014, PhD student at the Department of Cognitive Systems, Universität Tübingen

Research Interests

- Localization, mapping, and pose estimation of mobile robots
- RFID (Radio Frequency Identification) with mobile robots
- Active perception: integrate laser data to actively percept for RFID tags
- Field robots - especially robots in substation and nuclear environments

Projects

- Path Following with RFID tags in Unknown Environments
- Dynamic Object Tracking using the Signal Strength from RFID Tags

Publications

[1] Ran Liu, Goran Huskić, and Andreas Zell. On Tracking Dynamic Objects with Long Range Passive UHF RFID Using a Mobile Robot. *International Journal of Distributed Sensor Networks (IJDSN)*, Article ID 781380, 2015. [link]

[2] Ran Liu, Goran Huskić, and Andreas Zell. Dynamic Objects Tracking with a Mobile Robot using Passive UHF RFID Tags. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014)*, Chicago, Illinois, USA, 2014.

[3] Ran Liu and Andreas Zell. Towards Localizing Both Static and Non-static RFID Tags with a Mobile Robot. In *International Conference on Intelligent Autonomous Systems (IAS-13)*, Padova, Italy, 2014.

[4] 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.

[5] 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.

[6] 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).

[7] Heng Wang, Ran Liu, and Xingzhe Xie. Study on New Image Angle Matching Method and Applications. *Computer Engineering and Applications*, pages 208--211, 2011.

[8] Xingzhe Xie, Heng Wang, Ran Liu, Wen qiang Xiang, and Ming Jiang. 3d terrain reconstruction for patrol robot using point grey research stereo vision cameras. In *Proceedings of the 2010 International Conference on Artificial Intelligence and Computational Intelligence (AICI '10)*, volume 1, pages 47--51, Sanya, China, October 2010. [DOI]

[9] Ran Liu, Hua Zhang, Manlu Liu, Xianfeng Xia, and Tianlian Hu. Stereo cameras self-calibration based on sift. In *Proceedings of the 2009 International Conference on Measuring Technology and Mechatronics Automation (ICMTMA '09)*, volume 1, pages 352--355, Zhangjiajie, Hunan, April 2009. [DOI]

[10] Hua Zhang, Manlu Liu, Ran Liu, and Tianlian Hu. Path Planning of Robot in Three-dimensional Grid Environment based on Genetic Algorithms. In *Proceedings of the World Congress on Intelligent Control and Automation (WCICA 2008)*, pages 1010--1014, 2008. [link]

[11] Hua Zhang, Bo Qiu, Yatao Wang, and Ran Liu. Design and Application of 2D Barcode in Inspection Robots. *Journal of Huazhong University of Science and Technology*, 2008. [link]

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