JUN WANG

PhD candidate & Robot hobbyist

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EDUCATION

Joint Ph.D. program

University of Technology, Sydney

July 2016 – Ongoing Sydney, Australia

- Successfully applied the CSC's (Chinese Scholarship Council) 2-year scholarship.
- Major: Robotics

Ph.D. & MD-Ph.D.

University of Chinese Academy of Sciences

Jun. 2012 – Jul. 2018 Beijing, China

- Major: Geographical Information Science

B.S.

Wuhan University

Sep. 2008 – Jun. 2012 Wuhan, China

- Major: Geographical Information Science and Remote Sensing

EXPERIENCE AND PROJECTS

Research in UTS

Large scale 3D Reconstruction in indoor environment using a commodity sensor

Jun. 2016 – Ongoing Sydney, Australia

We proposed a submap joining based algorithm using points and planes as features. The use of submap significantly reduces the computational cost during the optimization process, without losing any information about planes and structures. We demo this algorithm on our robot and runs in a near real-time fashion.

- Independently accomplish Matlab prototype design and C/C++ programming.
- Deploy the algorithm on our Robot under ROS.
- Playing a key role in system design, data acquirement, processing and software implementation.

Internship at Intel

Develop SLAM algorithm for low-cost service robots

Sep. 2015 – Jun. 2016 Beijing, China

The project is part of robot research plan in Intel China Research. The simultaneous localization and mapping system use the RPLIDAR and RealSense sensors. It's implemented based on the open source code.

- I constructed the obstacle avoidance map based on the RealSense sensor, which can supplement to the laser.
- I implemented the exploration algorithm and showed the work in the final demo.

LIFE PHILOSOPHY

"Live and learn, life is a journey and the journey is the destination"

STRENGTHS

Hard-working | Persuasive | Motivator & Leader | Self-Motivated | Demo-driven development

SKILLS

Qualified in SLAM
Familiar with C/C++, Python, and MATLAB
Skilled master of Linux, gcc and so on
Knowledge of machine learning, deep learning
Developments under ROS
Knowledge about OpenCV and PCL libraries
Skilled in reading and writing technical reports

SELF ASSESSMENT

Love robotic technology
Health conscious, especially like running
Outgoing, with high capability
Love to learn and share

LANGUAGES

Chinese
English

AWARDS

Excellent third-class scholarship

Wuhan University

May. 2010 Wuhan, China

Excellent student research program

Wuhan University

May. 2012 Wuhan, China

Excellence rewards in debate competition

Institute of Remote Sensing and Digital Earth

Sep. 2013 Beijing, China

EXPERIENCE AND PROJECTS

Research collaboration in UTS

Dynamic Reconstruction of Deformable Soft-tissue with Stereo Scope in Minimal Invasive Surgery

Jun. 2016 – Ongoing Sydney, Australia

- Jointly processing camera calibration, Handeye calibration.
- Programming and debuging for the camera pose tracking system under ROS.
- Calibration for normal and special stereo cameras.

Research at UCAS

Change detection and localization of remote sensing information, Road extraction based on DNN

Sep. 2013 – Jun. 2016 Beijing, China

- Chose the DNN model and implemented it in Python Theano.
- Adjusted the parameters with concerns about the layer numbers, over fitting, and training time.
- Published a paper.

Team leader in School of Remote Sensing and Information Engineering

Wuhan university

Sep. 2011 – Jun. 2012 Wuhan, China

- Application of watershed algorithm in remote sensing images
- I chose the proper members for this project, arranged the work among members.
- I independently implemented the algorithm using C++.
- I presented the project.

PUBLICATIONS

Journal Articles

- Jun Wang Jingwei Song, Liang Zhao and Shoudong Huang. "A Submap Joining Algorithm for 3D Reconstruction using a RGB-D Camera based on Point and Plane Features". In: *Journal of Photogrammetry and Remote Sensing,Under review, top 1 in Photogrammetry*.
- Jingwei Song Jun Wang, Huang Shoudong and Dissanayake Gamini et al. (2017b). "Dynamic Reconstruction of Deformable Soft-tissue with Stereo Scope in Minimal Invasive Surgery". In: *IEEE Robotics and Automation Letters, appear on IROS 2017*.
- Liu Yuan, Jun Wang* and Song Jingwei et al (2017). "Globally Consistent Indoor Mapping via a Decoupling Rotation and Translation Algorithm Applied to RGB-D Camera Output". In: *ISPRS International Journal of Geo-Information (Corresponding author)*.
- Jun, Wang, Jingwei Song, and Mingquan Chen (2015). "Road network extraction: A neural-dynamic framework based on deep learning and a finite state machine". In: *International Journal of Remote Sensing* 36.12, pp. 3144–3169.

Merit students

University of Chinese Academy of Sciences

Aug. 2014 Beijing, China

Two-year joint Ph.D. program grant (4/100)

China Scholarship Council

Aug. 2014 Beijing, China

- Wang Feng, Pan Deji and Jun Wang (2015). “Dynamic dispatching and organization of massive data of urban 3D model”. In: *Journal of University of Chinese Academy of Sciences* 32.3, pp. 409–415.

Conference Proceedings

- Jingwei Song Jun Wang, Huang Shoudong and Dissanayake Gamini et al. (2017a). “Deformable Soft-tissue Reconstruction using Stereo Scope for Minimal Invasive Surgery”. In: *CARS 2017–Computer Assisted Radiology and Surgery, 31st International Congress and Exhibition*.
- Jun Wang Jingwei Song, Liang Zhao and Shoudong Huang. (2017). “A Submap Joining Based RGB-D SLAM Algorithm using Planes as Features”. In: *The 11th Intl. Conf. on Field and Service Robotics (FSR),Zurich, Switzerland*.
- Jun Wang Shoudong Huang, Liang Zhao and Xiangyu Wang (2017). “High quality 3D Reconstruction of Indoor environments using RGB-D sensors”. In: *Industrial Electronics and Applications (ICIEA), 2017 IEEE 12th Conference on*. IEEE, pp. 1288–1293.
- Song, Jingwei, Jun Wang, and Dissanayake Gamini et al. (2017). “Robust Shape Recovery of Deformable Soft-tissue Based on Information from Stereo Scope for Minimal Invasive Surgery”. In: *Hamlyn Symposium on Medical Robotics 2017*.
- Jingwei Song Jun Wang, Huang Shoudong and Dissanayake Gamini et al. (2016). “3D Shape Recovery of Deformable Soft-tissue with Computed Tomography and Depth Scan”. In: *Australasian Conference on Robotics and Automation (ACRA)*. ARAA.
- Xu, Jingzhong, Yuan Koua, and Jun Wang (2014). “High-precision DEM reconstruction based on airborne LiDAR point clouds”. In: *Remote Sensing of the Environment: 18th National Symposium on Remote Sensing of China*. International Society for Optics and Photonics, pp. 915808–915808.