ZHENG Fan

PhD candidate in Mechanical and Automation Engineering, The Chinese University of Hong Kong
Supervisor: Prof. LIU, Yun-hui
Co-Supervisor: Prof. NAVARRO ALARCON, David
Phone: (852) 3943 8056
E-mail: fzheng@link.cuhk.edu.hk
Address: 106, William M.W. Mong Eng Bldg, The Chinese University of HK, Shatin, N.T., Hong Kong

Education

2010-2014	Bachelor, Mechatronic Engineering, Zhejiang University
2014-	PhD, Mechanical and Automation Engineering, The Chinese University of HK

Research Interest

- Vision Based Localization of Mobile Robots
- Visual SLAM

Research Project Experience

2012-2014   Development of humanoid football player robots, in team ZJUDANCER
-- Our team develops kid-size humanoid football player robots
-- My work is to design robot mechanical structure, build 3D model in SolidWorks, draw machining drawings and contact with manufacturers for parts manufactory, assemble and maintain the robots. I'm the mechanical group leader in 2013-2014
-- Championship in 2013 RoboCup China; Top 8 in 2014 RoboCup in Brazil

2013-2014   Development of a test platform for tactile sensors of robotic arm
-- Final year project
-- Develop a mechatronic platform with 3-D translation and 3-D rotation, which can precisely move the stimulator tip to execute test work of required motion on tactile sensors

2014-   Ego-motion sensor (odometry/IMU) assisted visual SLAM for mobile robot navigation
-- To develop a truly usable and robust odometry/IMU assisted visual SLAM system for navigation of AGV/UAV, implementation based on ROS

Publications

- **F. Zheng**, Y.-H. Liu. A Geometric Model for Fusing IMU into Monocular Visual Localization of 3-D Mobile Robots. IEEE International Conference on Real-time Computing and Robotics, 2016. [accepted]
- Lu Y, Liu Y, Wang Z, **Zheng F**. Lens-free and portable quantitative phase microscope using a dual-pinhole aperture. International Symposium on Optomechatronic Technologies. International Society for Optics and Photonics, 2015.

Teaching Experience

2014/2015	TA, MAEG 3010 Mechanics of Materials
2014/2015	TA, MAEG 4050 Modern Control and Theory
2015/2016	TA, MAEG 5755 Robotics

Working Experience

2013   Robotics Intern in Atlas Copco (Wuxi)

-- Develop a robotic arm prototype for deburring compressor rotors

-- Design a six-servo robotic arm model with my partner; achieve the algorithm for inverse-kinematics; program in Arduino for control motion; program in Qt to create interface

Social Work Experience

2014   Student helper, ROBIO 2014 international conference

2015   Student ambassador, HKPFS Summer Workshop of Engineering Faculty, CUHK

Honors and Awards

2012   National Scholarship

2013   Championship in 2013 RoboCup China, Humanoid Kidsize

2014   Top-8 Team in 2014 RoboCup, Humanoid Kidsize

2014   Hong Kong PhD Fellowship