Songyou Peng

Contact Information

Advanced Digital Sciences Center
No. 1 Create Way, Singapore 138602

Phone: (+65) 9014 9675
E-mail: songyou.peng@adsc-create.edu.sg

Education

Erasmus Mundus Master in Vision and Robotics (VIBOT) **09/2015-09/2017**
Heriot-Watt University – Universitat de Girona – Université de Bourgogne
GPA: 17/20 (**rank 3/23**)

Xi'an Jiaotong University (XJTU) **09/2011-06/2015**
B.Eng in Automation, focus: Information processing and artificial intelligence
Cumulative GPA: 83.6/100, Major GPA: 87.4/100

Publication

- **Songyou Peng**, Peter Sturm. *Calibration Wizard: A Guidance System for Camera Calibration.* In submitted to European Conference on Computer Vision (ECCV), 2018.
- **Songyou Peng**, Le Zhang, Stefan Winkler. *PersEmoN: A Deep Network for Joint Analysis of Personality, Emotion and Their Relationship.* In submitted to European Conference on Computer Vision (ECCV), 2018.
- **Songyou Peng**, Bjoern Haefner, Yvain Quéau, Daniel Cremers. *Depth Super-Resolution Meets Uncalibrated Photometric Stereo.* In International Conference on Computer Vision (ICCV) Workshop, 2017. [Paper] [Code]

Experience

Research Engineer **01/2018-Present**
Advanced Digital Sciences Center, University of Illinois at Urbana-Champaign, Singapore

- Develop an end-to-end trainable and deep Siamese-like network to jointly recognize personality and emotion from visual cues and find the emotion-personality relationship
  Supervisor: Dr. Stefan Winkler, IEEE Fellow

Research Intern **02/2017-07/2017**
Technische Universität München (TUM), Munich, Germany

- Master thesis: High Quality Shape from an RGB-D Camera using Photometric Stereo [PDF]
  Supervisor: Prof. Daniel Cremers
- Proposed a new PDE-based photometric stereo regularizer to disambiguate depth super-resolution
- Outperformed the state-of-the-art depth refinement and depth super-resolution methods

Summer Research Intern **2016 & 2017 Summer**
INRIA Rhône-Alpes, Grenoble, France

- Designed a calibration guidance system called Calibration Wizard. **Supervisor**: Prof. Peter Sturm
- Our system computes the globally maximum reduction of expected uncertainty on intrinsic parameters, and interactively guides towards optimal calibration images.
- Incorporate uncertainty in corner point position with a novel learning manner.

Selected Course Projects

02/2016-12/2016

- SLAM and Object Recognition with Pepper Robot. [GitHub] [Video].
- PASCAL Visual Object Classes Challenge (Highest classification accuracy in VIBOT)
- Automatic multi-resolution atlas-based segmentation for tibia, femur and knee cartilage

Awards and Honours

EU Erasmus+ mobility grant, awarded by European Union Commission, 2016 & 2017

Excellent bachelor's graduation thesis (top 5% of all graduates), XJTU , 2015

First Place in Search and Rescue Robot Challenge 2010, California State University

Second Place in Trinity College Fire Fighting Home Robot Contest, Connecticut, U.S.A, 2010

Second Place in 2007 RoboCup Junior China Qualification Trial

Programming

Python Matlab, C/C++, ROS, OpenCV, MeshLab, MeVisLab, Assembly, Ladder Programming