

Bingbing Zhuang

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Education

- 2015– Present **Ph.D. Candidate in Electrical and Computer Engineering.**
National University of Singapore
Advisors: Loong Fah Cheong, Gim Hee Lee
- 2011–2015 **Bachelor in Electric Engineering and Information Science.**
University of Science and Technology of China (USTC), Hefei, China
GPA: 3.96/4.30, Rank: 3/105; Math GPA: 4.20/4.30

Research Interests

(1) 3D Computer Vision, including both low-level geometric problems (Structure-from-Motion/SLAM, 3D Reconstruction, Pose estimation) and high-level perception of 3D environment or humans. (2) Application of 3D Vision to Computational Photography.

Experience

- 2018 **Research Intern**, NEC Laboratories America, CA.
Jun.-Nov. Mentors: Prof. Manmohan Chandraker, Dr. Quoc-Huy Tran and Dr. Pan Ji in the Media Analytics group. Research on robust Structure-from-Motion and SLAM on unconstrained videos.
- 2014 **Research Intern**, Computer Science, The University of Hong Kong.
Jul.-Aug. Advisor: Prof. Yizhou Yu. Research on Person Re-identification problem based on metric learning and post-rank optimization
- 2014 Jun. **Research Engineer**, Information Processing Center, USTC.
-2015 Jun. Advisor: Prof. Nenghai Yu. Research on abnormal event detection in video based on sparse coding.

Publications

- Learning Structure-and-Motion Aware Rolling Shutter Correction.**
Bingbing Zhuang, Quoc-Huy Tran, Pan Ji, Loong-Fah Cheong, Manmohan Chandraker.
Computer Vision and Pattern Recognition (CVPR), 2019. *Oral Presentation*
- Degeneracy in Self-Calibration Revisited and a Deep Learning Solution for Uncalibrated SLAM.**
Bingbing Zhuang, Quoc-Huy Tran, Gim Hee Lee, Loong-Fah Cheong, Manmohan Chandraker.
IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS), 2019.
[Under Review]
- Baseline Desensitizing In Translation Averaging.**
Bingbing Zhuang, Loong-Fah Cheong, Gim Hee Lee.
Computer Vision and Pattern Recognition (CVPR), 2018.

Rolling-Shutter-Aware Differential SfM and Image Rectification.
Bingbing Zhuang, Loong-Fah Cheong, Gim Hee Lee.
International Conference on Computer Vision (ICCV), 2017.

Person Re-Identification by the marriage of KISS Metric Learning and Post-Rank Optimization: KISSPOP.

Bingbing Zhuang, Ziping Zhu, Fangbemi Abassin Sourou, Nenghai Yu.
International Conference on Internet Multimedia Computing and Service (ICIMCS), 2015

Selected Awards

- 2015-2019 President's Graduate Fellowship, NUS
- 2015 Excellent Bachelor's Thesis Award (Top 5%), USTC
- 2015 Honorary Rank of Academic Achievement of the Grade 2011 Undergraduates (Top 5%), USTC
- 2011-2015 Top 3 cumulative GPA in the department of EEIS, USTC
- 2011-2015 Numerous Scholarships, USTC
- 2010 Province First Prize in China National Physics Olympiad

Patent Applications

Camera Self-Calibration Using Convolutional Neural Networks with Applications to SFM/SLAM with Uncalibrated Images/Videos

Q.-H. Tran, B. Zhuang, P. Ji, and M. Chandraker

NEC Laboratories America, Inc. (provisional application US/62/793,948, filed on Jan 2019)

Rolling Shutter Correction Using Convolutional Neural Networks with Applications to SFM/SLAM with Rolling Shutter Images/Videos

Q.-H. Tran, B. Zhuang, P. Ji, and M. Chandraker

NEC Laboratories America, Inc. (provisional application US/62/751,888, filed on Oct 2018)

Professional Services

- Reviewer CVPR, ICCV, BMVC, ACMMM, ICVGIP

Teaching Assistant

- 2017 Fall EE5731 Visual Computing, NUS
- 2016-2018 EE4212 Computer Vision, NUS
Spring
- 2016 Fall CG3207 Computer Architecture, NUS
- 2014 Fall Programming in C language, USTC