Heng Guo

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Educational Background

University of Electronic Science and Technology of China (UESTC) **Chengdu, China**

M.S in Information Engineering, Institute of Image Processing (Overall GPA: 3.69/4.0) *Sep 2015– Jun 018*

Advisor: Prof. Bing Zeng (IEEE Fellow) & Prof. Shuaicheng Liu

Graduation Thesis: Research on Digital Video Stabilization Algorithm based on Android Platform

University of Electronic Science and Technology of China (UESTC) **Chengdu, China**

B.S in Electronic Information Engineering (Overall GPA: 3.76/4.0) *Sep 2011– Jun 2015*

Graduation Thesis: Multiple Video Mosaicking Using Bundled Camera Paths

Honors & Awards

Excellent Master Thesis of UESTC (Top 3%)	06/2018
Excellent Postgraduate of UESTC (Top 6%)	06/2018
National Scholarship (Top 2%)	10/2017
Academic Scholarship (Top 10%)	in 2015&2016&2017
Excellent Graduate of UESTC (Top 7%)	09/2015
The 1st Prize in the National College Student Information Security Contest	07/2014
The 2nd Prize in the National Undergraduate Electronics Design Contest	09/2013
People's Scholarship (Top 15%)	in 2011 & 2012 &2013

Research Experience

Joint Video Stitching and Stabilization from Moving Cameras **Project Website**

***Heng Guo**, Shuaicheng Liu, Tong He, Shuyuan Zhu, Bing Zeng, Moncef Gabbouj. IEEE Transactions on Image Processing* (**TIP 2016**)

(The research is supported by **The Fundamental Research Funds for the Central Universities**)

- Propose a unified framework in which video stitching and stabilization are achieved jointly and design a plugin "VideoStitcher" in AE.
- Design a grid-based tracking method which produces features distributed evenly within and across multiple views.
- Use mesh-based motion model to improve the accuracy of spatial alignment and avoid temporal distortion such as wobble.

Joint Bundled Camera Paths for Stereoscopic Video Stabilization **Project Website**

***Heng Guo**, Shuaicheng Liu, Shuyuan Zhu, Bing Zeng. IEEE International Conference on Image Processing* (**ICIP 2016**)

(The research is supported by **The National Natural Science Foundation of China**)

- Propose a framework for stereoscopic video stabilization which keep correct disparity
- Design a novel warping method "JDSW" which jointly considers disparities and stabilities in mesh warping.

View Consistent MeshFlow for Stereoscopic Video Stabilization

***Heng Guo**, Shuaicheng Liu, Shuyuan Zhu, Hengtao Shen, Bing Zeng. IEEE Transactions on Computational Image* (**TCI 2018**)

- Apply MeshFlow to improve the efficiency and robustness of stereoscopic video stabilization algorithm.
- Propose quantitive evaluations for the video stability and the correctness of disparity between left and right views.

Laptop Security Tracking System

*Yvefeng Hou, **Heng Guo**, Gengbo Wu, Yuchen Jiang.*

Design an embedded platform based on microprocessor which protects user's laptop. The system contains three function: anti-theft warning, location tracking and privacy protection.

Internship & Volunteering Experience

Intern——Artificial Intelligence Research Institute of Qihoo 360 06/2016-12/2016

Contribution: Design an online video stabilization application based on android platform.

- Develop a real-time video stabilization algorithm that stabilizes user-captured video with only 0.5 second delay.
- Design the architecture of android application and use multi-thread and pipeline to achieve the processing speed of 30fps on full HD video.
- Optimize the memory leak and improve the robustness of the algorithm to handle scene with quick rotation and parallax.

Volunteer——HaiHong Village Committee of Dujiangyan City, Sichuan Province 06/2012-07/2012

Participate in the program of Aid Education and be honored with "**Outstanding Individual in Social Practice**