

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: <u>3.69/4.0</u>)	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: <u>3.76/4.0</u>)	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 1 st Prize in the National College Student Information Security Contest	07/2014
The 2 nd 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 (TCI Minor Change)

Heng Guo, Shuaicheng Liu, Shuyuan Zhu, Hengtao Shen, Bing Zeng.

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

Laptop Security Tracking System

Yefeng 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**”