

## Zhe Hu

---

- SUMMARY** Researcher/engineer with training and R&D experience in Computer Vision, Computational Photography and Machine Learning.
- CONTACT INFORMATION** *Phone:* (209) 201-5123  
*E-mail:* zhe.hu@hikvision.com  
*Webpage:* <https://eng.ucmerced.edu/people/zhu>
- PROFESSIONAL EXPERIENCE**
- Hikvision Research**, Santa Clara, CA, USA  
*Research Scientist* Aug 2017 - Current
- Light Labs Inc.**, Palo Alto, CA, USA  
*Research Scientist at Computational Imaging Group* Oct 2015 - July 2017
- Develop computational imaging algorithms behind the multi-sensor camera
  - Automatic portrait image segmentation/matting using multi-view images
  - Multi-view stereo for scene depth estimation and depth-of-field related processing
- Light Labs Inc.**, Palo Alto, CA, USA  
*Intern at Computational Imaging Group* May 2015 - July 2015
- Mentor: Kari Pulli
- Microsoft Research**, Beijing, China  
*Research Intern at Internet Graphics Group* May 2014 - August 2014
- Project: Image deblurring using smartphone inertial sensors, including gyroscope and accelerometer sensors
  - Mentor: Steve Lin and Lu Yuan
- Adobe Research**, Seattle, WA, USA  
*Research Intern at Creative Technologies Lab* May 2013 - August 2013
- Project: Deblurring low-light images with light streaks, interactive image deblur
  - Mentor: Jue Wang and Sunghyun Cho
- EDUCATION**
- University of California, Merced**, CA, USA  
Ph.D., EECS August 2009 - August 2015
- Advisor: Ming-Hsuan Yang
- Zhejiang University**, Hangzhou, Zhejiang, China  
B.S., Mathematics August 2005 - August 2009
- Honor: Shin-Tung Yau mathematical talents class and Chu Kochen Honors Program
- PUBLICATIONS**
- Zhe Hu, Sunghyun Cho, Jue Wang and Ming-Hsuan Yang, *Deblurring low-light images with light streaks*, accepted in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI).
- Jinshan Pan, Zhe Hu, Zhixun Su and Ming-Hsuan Yang *L0-regularized intensity and gradient prior for deblurring text images and beyond*, in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2016.
- Zhe Hu, Lu Yuan, Steve Lin and Ming-Hsuan Yang *Image deblurring using smartphone inertial sensors*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
- Jinshan Pan, Zhe Hu, Zhixun Su and Ming-Hsuan Yang *Soft-segmentation guided object motion deblurring*, in IEEE Conference on Computer Vision and Pattern Recognition

(CVPR) 2016.

Jason Lai, Jia-Bin Huang, Zhe Hu, Narendra Ahuja and Ming-Hsuan Yang *A comparative study for single-image blind deblurring*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.

Zhe Hu and Ming-Hsuan Yang, *Learning good regions to deblur*, in International Journal of Computer Vision (IJCV) 2015.

Jinshan Pan\*, Zhe Hu\* (\* indicates equal contribution), Zhixun Su and Ming-Hsuan Yang, *Deblurring face images with exemplars*, in European Conference on Computer Vision (ECCV) 2014.

Zhe Hu, Sunghyun Cho, Jue Wang and Ming-Hsuan Yang, *Deblurring low-light images with light streaks*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2014.

Zhe Hu, Li Xu and Ming-Hsuan Yang, *Joint depth estimation and camera shake removal from single blurry image*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2014.

Jinshan Pan, Zhe Hu, Zhixun Su and Ming-Hsuan Yang, *Deblurring text images via  $L_0$ -regularized intensity and gradient prior*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2014.

Zhe Hu and Ming-Hsuan Yang, *Good regions to deblur*, in European Conference on Computer Vision (ECCV) 2012 (Oral presentation).

Zhe Hu and Ming-Hsuan Yang, *Fast non-uniform deblurring using constrained camera pose subspace*, in British Machine Vision Conference (BMVC) 2012 (Oral presentation).

Zhe Hu, Jia-Bin Huang and Ming-Hsuan Yang, *Single image deblurring with adaptive dictionary learning*, in IEEE International Conference on Image Processing (ICIP) 2010.

#### PROFESSIONAL ACTIVITIES

*Organizer of IREw 2014*

Emerging Topics on Image Restoration and Enhancement (IREw) workshop in conjunction with ACCV 2014

*Journal Reviewer*

- IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transaction on Image Processing, IEEE Transaction on Computational Imaging, Siggraph Asia, Eurographics, The Visual Computer, Computers & Graphics

*Conference Reviewer*

- CVPR 2016/2017, ICCV 2015/2017, ECCV 2014/2016, NIPS 2016/2017, ACCV 2014

#### TALKS

**Camera Shake Removal from Single Blurry Image**, University of California, San Diego, CA, USA, 2015

**Good Regions to Deblur**, European Conference on Computer Vision, Palazzo dei Congressi, Florence, Italy, 2012

**Fast Non-uniform Deblurring using Constrained Camera Pose Subspace**, British Machine Vision Conference, University of Surrey, Guildford, UK, 2012

#### PATENTS

**Image Deblurring based on Light Streaks**. J Wang, S Cho, Z Hu, US Patent App. 14/105,554, 2013

AWARDS            **Graduate Dean's Dissertation Fellowship**, based on academic achievement, UC Merced, 2015.  
                      **CVPR Doctoral Consortium, 2014**  
                      **Graduate Research Council Graduate Fellowship**, UC Merced, 2013.  
                      **Graduate Research Council Graduate Fellowship**, UC Merced, 2011.  
                      **Graduate Research Council Graduate Fellowship**, UC Merced, 2010.  
                      **Excellent Graduate Student** (250 out of 5000), Zhejiang University, 2009.  
                      **First-grade Research and Creation Scholarship** (170 out of 20000), Zhejiang University, 2008.  
                      **First Price**, Calculus Contest in Zhejiang Province, 2007.

PROGRAMMING    **Programming Languages**  
SKILLS            Proficiency with C/C++ development, Matlab, Java.  
                      Moderation with Python and Objective C.  
                      **Tools**  
                      Proficiency with Git, Shell, OpenCV.

LANGUAGE        Native in Chinese.  
                      Fluent in English.