

# Zhe Hu

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SUMMARY	Researcher/engineer with training and R&D experience in Computer Vision, Computational Photography and Machine Learning.
CONTACT INFORMATION	<i>E-mail:</i> zhe.hu@hikvision.com or zhe.hu.66@gmail.com <i>Webpage:</i> <a href="https://eng.ucmerced.edu/people/zhu">https://eng.ucmerced.edu/people/zhu</a>
PROFESSIONAL EXPERIENCE	<p><b>Hikvision Research</b>, Santa Clara, CA, USA <i>Senior Research Scientist</i> Aug 2017 - Current</p> <ul style="list-style-type: none"><li>• R&amp;D SLAM algorithms</li><li>• R&amp;D depth-related algorithms</li><li>• R&amp;D Image restoration algorithms</li></ul> <p><b>Light Labs Inc.</b>, Palo Alto, CA, USA <i>Research Scientist at Computational Imaging Group</i> Oct 2015 - July 2017</p> <ul style="list-style-type: none"><li>• Develop computational imaging algorithms behind the multi-sensor camera</li><li>• Automatic portrait image segmentation/matting using multi-view images</li><li>• Multi-view stereo for scene depth estimation and depth-of-field related processing</li></ul> <p><b>Light Labs Inc.</b>, Palo Alto, CA, USA <i>Intern at Computational Imaging Group</i> May 2015 - July 2015</p> <ul style="list-style-type: none"><li>• Mentor: Kari Pulli</li></ul> <p><b>Microsoft Research</b>, Beijing, China <i>Research Intern at Internet Graphics Group</i> May 2014 - August 2014</p> <ul style="list-style-type: none"><li>• Project: Image deblurring using smartphone inertial sensors, including gyroscope and accelerometer sensors</li><li>• Mentor: Steve Lin and Lu Yuan</li></ul> <p><b>Adobe Research</b>, Seattle, WA, USA <i>Research Intern at Creative Technologies Lab</i> May 2013 - August 2013</p> <ul style="list-style-type: none"><li>• Project: Deblurring low-light images with light streaks, interactive image deblur</li><li>• Mentor: Jue Wang and Sunghyun Cho</li></ul>
EDUCATION	<p><b>University of California, Merced</b>, CA, USA Ph.D., EECS August 2009 - August 2015</p> <ul style="list-style-type: none"><li>• Advisor: Ming-Hsuan Yang</li></ul> <p><b>Zhejiang University</b>, Hangzhou, Zhejiang, China B.S., Mathematics August 2005 - August 2009</p> <ul style="list-style-type: none"><li>• Honor: Shin-Tung Yau mathematical talents class and Chu Kochen Honors Program</li></ul>
PUBLICATIONS	<p>Xinyi Zhang, Hang Dong, <a href="#">Zhe Hu</a>, Wei-Sheng Lai, Fei Wang and Ming-Hsuan Yang, <i>Gated Fusion Network for Joint Image Deblurring and Super-Resolution</i>, in British Machine Vision Conference (BMVC) 2018 (Oral presentation).</p> <p>Jinshan Pan, Wenqi Ren, <a href="#">Zhe Hu</a> and Ming-Hsuan Yang, <i>Learning to Deblur Images with Exemplars</i>, in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2018.</p> <p><a href="#">Zhe Hu</a>, Sunghyun Cho, Jue Wang and Ming-Hsuan Yang, <i>Deblurring low-light images with light streaks</i>, in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2017.</p>

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.

Wei-Sheng 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 (Spotlight presentation).

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 L0-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 2016/2017/2018, ICCV 2015/2017, ECCV 2014/2016/2018, NIPS 2016/2017/2018, 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 SKILLS      **Programming Languages**  
Proficiency with C/C++ development, Matlab, Java, Python.  
Moderation with Objective C, Shell.  
**Tools**  
Proficiency with Git, LaTeX, OpenCV.

LANGUAGE      Native in Chinese.  
Fluent in English.