

# Yu Li

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## Education

- 2011–2015 **Ph.D. in Computer Science.**  
National University of Singapore, Singapore  
Thesis: Separating Layers in Images and Its Applications      Advisor: Michael S. Brown  
*IDA Medal and Prize, Wang Gungwu Nomination Award*
- 2007–2011 **B.Eng in Information Engineering.**  
Beijing University of Posts and Telecommunications, Beijing  
*Outstanding Student Award*

## Research Interests

- **Computational photography:** low-level image restoration/enhancement, super resolution, color processing, digital panoramas, high-dynamic-range images, light field cameras, depth sensing
- **Computer vision:** optical flow, stereo, segmentation, facial analysis, object detection, scene understanding, image classification
- **Machine learning:** probability graphical model, deep learning
- **Optimization:** convex/non convex optimization, discrete optimization

## Experience

### Work Experience

- 2015–Present **Researcher, Advanced Digital Sciences Center (ADSC), Singapore.**  
**Research Affiliate, University of Illinois at Urbana-Champaign (UIUC), US.**  
ADSC is a research center, which was jointly founded by the UIUC and the Agency for Science, Technology and Research (A\*STAR), Singapore. I am working on the *Visual Modeling and Analytics of Dynamic Environments for the Mass* project, as part of the Data Analytics sub-program. This project aims to address emerging challenges to visual data analytic by developing fundamental technical tools needed to bring structure into ever-growing visual data captured from various sources.

### Internship

- 2014–2015 **Research Intern, Advanced Digital Sciences Center, Singapore.**  
Worked on project for estimating dense correspondence (stereo/optical flow) between images with Dr. Jiangbo Lu and Dr. Dongbo Min.
- 2010–2011 **Undergrad Intern, BUPT Pattern Recognition and Intelligent System Lab, Beijing.**  
Worked on research projects for facial landmark locating, object recognition and segmentation with Prof. Weihong Deng.

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## Publications ([Google Scholar](#))

- ECCV 2016 **Fast Guided Global Interpolation for Depth and Motion.**  
Yu Li, Dongbo Min, Minh N. Do, Jiangbo Lu  
*European Conference on Computer Vision 2016*  
[Spotlight in ECCV 2016]
- CVPR 2016 **Rain Streak Removal Using Layer Priors.**  
Yu Li, Robby T. Tan, Xiaojie Guo, Jiangbo Lu, Michael S. Brown.  
*IEEE Conference on Computer Vision and Pattern Recognition 2016*
- ICCV 2015 **Nighttime Haze Removal with Glow and Multiple Light Colors.**  
Yu Li, Robby T. Tan, Michael S. Brown.  
*IEEE International Conference on Computer Vision 2015*
- ICCV 2015 **SPM-BP: Sped-up PatchMatch Belief Propagation for Continuous MRFs.**  
Yu Li, Dongbo Min, Michael S. Brown, Minh N. Do, Jiangbo Lu.  
*IEEE International Conference on Computer Vision 2015*  
[Oral Presentation, Accept rate = 3.30%]
- ECCV 2014 **A Contrast Enhancement Framework with JPEG Artifacts Suppression.**  
Yu Li, Fangfang Guo, Robby T. Tan, Michael S. Brown.  
*European Conference on Computer Vision 2014*
- CVPR 2014 **Single Image Layer Separation using Relative Smoothness.**  
Yu Li, Michael S. Brown.  
*IEEE Conference on Computer Vision and Pattern Recognition 2014*  
[Oral Presentation, Accept rate = 5.76%]
- ICCV 2013 **Exploiting Reflection Change for Automatic Reflection Removal.**  
Yu Li, Michael S. Brown.  
*IEEE International Conference on Computer Vision 2013*
- MM-W 2013 **An Evaluation of Wearable Activity Monitoring Devices.**  
Fangfang Guo, Yu Li, Mohan Kankanhalli, Michael S. Brown.  
*ACM Multimedia Workshop on Personal Data Meets Distributed Multimedia 2013*
- EG 2013 **Seam-Driven Image Stitching.**  
Junhong Gao, Yu Li, Tat-Jun Chin, Michael S. Brown.  
*Eurographics 2013*
- ICNIDC 2011 **Locating Facial Features by Robust Active Shape Model.**  
Jiani Hu, Yu Li, Weihong Deng, Jun Guo, Weiran Xu.  
*IEEE International Conference on Network Infrastructure and Digital Content 2010*

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## Academic Activities

- Journal IEEE Pattern Analysis and Machine Intelligence (TPAMI)
- Reviewer IEEE Signal Processing Letter  
Computer Graphics Forum  
Computers & Graphics
- Conference Eurographics 2016
- Reviewer ACM Siggraph 2015  
Pacific Graphics (PG) 2016  
Pacific Graphics (PG) 2015

Pacific Graphics (PG) 2014  
ACM Siggraph Asia 2014

## Teaching

2014 Fall Teaching Assistant of CS5340 Uncertainty Modelling in AI

## Awards

2016 SoC Best thesis award  
2011–2015 NUS Research Scholarship  
2008–2010 BUPT Scholarship for Academic Excellence (for top 5%)  
2008 Outstanding Student Award of BUPT

## Talks

Dec 2015 **SPM-BP: Sped-up PatchMatch Belief Propagation for Continuous MRFs**  
IEEE International Conference on Computer Vision, Santiago, Chile  
Sep 2014 **Automatic Layer Separation in Images**  
A\*STAR Bioinformatics Institute, Singapore

## Technical Strengths

Programming C/C++, Python, Matlab  
Language Chinese (native), English (fluent)

## References

### Michael S. Brown

Associate Professor in National University of Singapore  
✉ brown@comp.nus.edu.sg

### Robby T. Tan

Assistant Professor in Yale-NUS College  
✉ robby.tan@yale-nus.edu.sg

### Weihong Deng

Associate Professor in Beijing University of Posts and Telecommunications  
✉ whdeng@bupt.edu.cn