

Joon-Young Lee

CONTACT INFORMATION	Adobe Systems Incorporated 345 Park Ave, E7-419 San Jose, CA 95110	https://sites.google.com/site/jyleecv/jolee@adobe.com
RESEARCH INTERESTS	<ul style="list-style-type: none">• Deep Learning• Computer Vision• Image/Video enhancement• Computational photography	
EDUCATION	KAIST , Daejeon, Korea Ph.D., Electrical Engineering, Aug 2015 <ul style="list-style-type: none">• Dissertation: Photometric Approaches for Image Enhancement and Editing• Advisors: Prof. In So Kweon M.S., Electrical Engineering, Aug 2009 <ul style="list-style-type: none">• Advisor: Prof. In So Kweon Yonsei University , Seoul, Korea B.S., Electrical & Electronic Engineering, Feb 2008 <ul style="list-style-type: none">• <i>High Honors at Graduation</i> (GPA: 4.02/4.3)	
RESEARCH EXPERIENCE	Adobe Research , San Jose, CA <i>Research Scientist</i> , Imagination Lab KAIST , Daejeon, Korea <i>Research Assistant</i> , Robotics and Computer Vision Lab, Adobe Systems , San Jose, CA <i>Research Intern</i> , Imagination Lab Korea Electronics Technology Institute (KETI) , Korea <i>(Part-time) Research Intern</i> , Multimedia IP Research Center Microsoft Research Asia , Beijing, China <i>Research Intern</i> , Visual Computing Group	Oct 2015 – present Mar 2008 – Sep 2015 Jun 2014 – Sep 2014, Mar 2015 – Apr 2015 Apr 2013 – May 2014 Sep 2010 – Aug 2011
PUBLICATIONS	International Journal <ol style="list-style-type: none">1. Jiyoung Jung, Joon-Young Lee, Yekeun Jeong, and In So Kweon, “Time-of-flight sensor calibration for a color and depth camera pair”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, Volume 37, Number 7, Pages 1501-1513, Jul 2015.2. Tae-Hyun Oh, Joon-Young Lee, Yu-Wing Tai, and In So Kweon, “Robust High Dynamic Range Imaging by Rank Minimization”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, Volume 37, Number 6, Pages 1219-1232, Jun 2015.3. Joon-Young Lee, Yasuyuki Matsushita, Boxin Shi, In So Kweon, and Katsushi Ikeuchi, “Radiometric Calibration by Rank Minimization”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, Volume 35, Number 1, Pages 144-156, Jan 2013. International Conference <ol style="list-style-type: none">1. Youngjin Yoon, Gyeongmin Choe, Namil Kim, Joon-Young Lee, and In So Kweon, “Fine-scale Surface Normal Estimation using a Single NIR Image”, <i>In Proc. of European Conference on Computer Vision (ECCV)</i>, Oct 2016.	

2. **Joon-Young Lee**, Kalyan Sunkavalli, Zhe Lin, Xiaohui Shen, and In So Kweon, “Automatic Content-Aware Color and Tone Stylization”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jun 2016. (**Spotlight**).
3. Hae-Gon Jeon, **Joon-Young Lee**, Sunghoon Im, Hyowon Ha, and In So Kweon, “Stereo Matching with Color and Monochrome Cameras in Low-light Conditions”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jun 2016.
4. Inwook Shim, Seunghak Shin, Yunsu Bok, Kyungdon Joo, Dong-Geol Choi, **Joon-Young Lee**, Jaesik Park, Jun-Ho Oh, and In So Kweon, “Vision System and Depth Processing for DRC-HUBO+”, *In Proc. of IEEE International Conference on Robotics and Automation (ICRA)*, May 2016.
5. Donggeun Yoo, Sunggyun Park, **Joon-Young Lee**, Anthony Paek, and In So Kweon, “AttentionNet: Aggregating Weak Directions for Accurate Object Detection”, *In Proc. of IEEE International Conference on Computer Vision (ICCV)*, Dec 2015.
6. Hae-Gon Jeon, **Joon-Young Lee**, Yudeog Han, Seon Joo Kim, and In So Kweon, “Complementary Sets of Shutter Sequences for Motion Deblurring”, *In Proc. of IEEE International Conference on Computer Vision (ICCV)*, Dec 2015.
7. Youngjin Yoon, Hae-Gon Jeon, Donggeun Yoo, **Joon-Young Lee**, and In So Kweon, “Learning a Deep Convolutional Network for Light-Field Image Super-Resolution”, *In Proc. of IEEE International Conference on Computer Vision Workshops (ICCVW)*, Dec 2015.
8. Jiyoung Jung, **Joon-Young Lee**, and In So Kweon, “One-day outdoor photometric stereo via skylight estimation”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jun 2015. (**Oral**).
9. Donggeun Yoo, Sunggyun Park, **Joon-Young Lee**, and In So Kweon, “Multi-scale Pyramid Pooling for Deep Convolutional Representation”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, Jun 2015.
10. Kibaek Park, Seunghak Shin, Hae-Gon Jeon, **Joon-Young Lee**, and In So Kweon, “Motion Deblurring using Coded Exposure for a Wheeled Mobile Robot”, *In Proc. of International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, Nov 2014.
11. Yukyung Choi, Chaehoon Park, **Joon-Young Lee**, and In So Kweon, “Robust Binary Feature using the Intensity Order”, *In Proc. of Asian Conference on Computer Vision (ACCV)*, Nov 2014. (* denotes equal contributions.)
12. Inwook Shim, **Joon-Young Lee**, and In So Kweon, “Auto-adjusting Camera Exposure for Outdoor Robotics using Gradient Information”, *In Proc. of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Sep 2014.
13. Youngbae Hwang*, **Joon-Young Lee***, In So Kweon, and Seon Joo Kim, “Color Transfer using Probabilistic Moving Least Squares”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jun 2014. (* denotes co-first authors.)
14. Jiyoung Jung, **Joon-Young Lee**, and In So Kweon, “Noise aware depth denoising for a time-of-flight camera”, *In Proc. of Korea-Japan Joint Workshop on Frontiers of Computer Vision (FCV)*, Feb 2014.
15. Yudeog Han, **Joon-Young Lee**, and In So Kweon, “High Quality Shape from a Single RGB-D Image under Uncalibrated Natural Illumination”, *In Proc. of IEEE International Conference on Computer Vision (ICCV)*, Dec 2013.
16. Hae-Gon Jeon, **Joon-Young Lee**, Yudeog Han, Seon Joo Kim, and In So Kweon, “Fluttering Pattern Generation using Modified Legendre Sequence for Coded Exposure Imaging”, *In Proc. of IEEE International Conference on Computer Vision (ICCV)*, Dec 2013.
17. **Joon-Young Lee**, Jiyoung Jung, Yunsu Bok, Jaesik Park, Dong-Geol Choi, Yudeog Han, and In So Kweon, “Robust Computer Vision Techniques for High-quality 3D Modeling”, *In Proc. of IAPR Asian Conference on Pattern Recognition (ACPR)*, Nov 2013.

18. Tae-Hyun Oh, **Joon-Young Lee**, and In So Kweon, “High Dynamic Range Imaging by a Rank-1 Constraint”, *In Proc. of IEEE International Conference on Image Processing (ICIP)*, Sep 2013.
19. Tae-Hyun Oh, **Joon-Young Lee**, and In So Kweon, “Real-Time Motion Detection based on Discrete Cosine Transform”, *In Proc. of IEEE International Conference on Image Processing (ICIP)*, Sep 2012.
20. Jaesik Park, **Joon-Young Lee**, Yu-Wing Tai, and In So Kweon, “Modeling Photo Composition and Its Application to Photo Re-arrangement”, *In Proc. of IEEE International Conference on Image Processing (ICIP)*, Sep 2012
21. **Joon-Young Lee**, Boxin Shi, Yasuyuki Matsushita, In So Kweon, and Katsushi Ikeuchi, “Radiometric Calibration by Transform Invariant Low-rank Structure”, *In Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jun 2011.
22. Jiyoung Jung, Yekeun Jeong, **Joon-Young Lee**, Hanbyul Joo, and In So Kweon, “View-invariant Planar Object Detection for VisTRO”, *In Proc. of International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, Nov 2010.
23. Jiyoung Jung, Yekeun Jeong, **Joon-Young Lee**, and In So Kweon, “Image Warping for View-invariant Object Matching using Stereo Camera”, *In Proc. of Korea-Japan Joint Workshop on Frontiers of Computer Vision (FCV)*, Feb 2010.

HONORS & AWARDS

- Best poster award, The 9th International Workshop on Robust Computer Vision. Dec 2014
- Research Highlights of the year (2013), KAIST Mar 2014
- Qualcomm Innovation Award Sep 2013
- Research Highlights of the year (2012), KAIST Mar 2013
- Silver prize, 19th HumanTech Paper Award, Samsung Electronics Co., Ltd. Feb 2013
- Excellent intern award, Microsoft Research Asia Aug 2011
- High Honors at Graduation, Yonsei University Feb 2008
- Full scholarship, Jeongsu Scholarship Foundation Mar 2006 – Feb 2008
- Full scholarship, Yonsei University Mar 2005 – Feb 2006

INDUSTRIAL EXPERIENCE

- SinziNET. Co., Ltd.
Software engineer Sep 2004 – Jan 2005
- ATOP Information & Technology Co., Ltd.
Software engineer Aug 2001 – Jul 2004
- Working at the company as an alternative to mandatory military duty
- Timespace system Co., Ltd.
Software engineer Jan 2001 – Aug 2001

IT SKILLS

- Extensive software experience in computer vision and signal processing (image, video)
- Languages: C, C++, MATLAB, Python, Lua, \LaTeX , Java, PHP, HTML, MySQL
- Libraries: OpenCV, OpenGL, and others
- Operating Systems: Windows, Unix/Linux

REFERENCES

Available upon request.

Last updated: October 19, 2016