# Junho Jeon

Ph.D. Candidate

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## Research Interests

Computer graphics and 3D vision, deep learning, 3D Reconstruction, scene understanding. image processing

## Education & Career

**POSTECH(Pohang University of Science and Technology)** — *Pohang, S.Korea*

Ph.D. (Joint M.S & Ph.D.) in Dept. of Computer Science and Engineering — *Mar. 2012 - Present*

- Advisor: Prof. Seungyong Lee

**Microsoft Research Asia** — *Beijing, China*

Fulltime Research Intern — *Sept. 2012 - Feb. 2013*

- Researched an intrinsic image decomposition algorithm from single RGB-D image
- Advisor: Dr. Xin Tong

**POSTECH(Pohang University of Science and Technology)** — *Pohang, S.Korea*

B.S. in Dept. of Computer Science and Engineering — *Mar. 2008 - Feb. 2012*

- Graduated with Cum laude (GPA 3.49)

## Publications

### International Conference & Journal

- **Junho Jeon**, Jinwoong Jung, Jungeon Kim, Seungyong Lee, **"Semantic Reconstruction: Reconstruction of Semantically Segmented 3D Meshes via Volumetric Semantic Fusion,"** Computer Graphics Forum (special issue on Pacific Graphics 2018), Vol. 37, No. 7, October 2018.
- **Junho Jeon**, Seungyong Lee, **"Reconstruction-based Pairwise Depth Dataset for Depth Image Enhancement Using CNN,"** ECCV, 2018.
- Hyunjoon Lee, **Junho Jeon**, Junho Kim, Seungyong Lee, **"Structure-Texture Decomposition of Images with Interval Gradient,"** Computer Graphics Forum, Vol. 36, No. 6, September 2017.
- **Junho Jeon**, Hyunjoon Lee, Henry Kang, Seungyong Lee, **"Scale-aware Structure-Preserving Texture Filtering,"** Computer Graphics Forum (special issue on Pacific Graphics 2016), Vol. 35, No. 7, October 2016.
- **Junho Jeon**, Yeongyu Jung, Haejoon Kim, Seungyong Lee, **"Texture Map Generation for 3D Reconstructed Scenes,"** Visual Computer (special issue on CGI 2016), Vol. 32, Issue 6, pp 955-965, June 2016.
- **Junho Jeon**, Sunghyun Cho, Xin Tong, Seungyong Lee, **"Intrinsic Image Decomposition using Structure-Texture Separation and Surface Normals,"** ECCV, 2014.

### International Workshop

- Eunbin Hong, **Junho Jeon**, Seungyong Lee, **"CNN based Repeated Cropping for Photo Composition Enhancement,"** CVPR Scene Understanding Workshop (SUNw), 2017.
- **Junho Jeon**, Hyunjoon Lee, Junho Kim, Henry Kang, Seungyong Lee, **"Kernel Carving for Structure-Preserving Image Smoothing,"** International Workshop on Frontiers of Computer Vision (IW-FCV), 2017.
- **Junho Jeon**, Daehoon Yoo, Seungyong Lee, **"Fast Indoor Structure Analysis of Single RGBD Images,"** CVPR Scene Understanding Workshop (SUNw), 2015.
- **Junho Jeon**, Daehoon Yoo, Chiyoung Lee, Hyunjoon Lee, Junho Kim, Seungyong Lee, **"Kinect Reality: Real-time 3D Scanning Based Augmented Reality,"** ACCV, 2012 (Workshop on RGB-D Camera) **(Best Kinect Application Award)**

## Research & Project Experience

### Real-time 3D Reconstruction of Large-scale Environment Based on Hierarchical Structural Information

*POSTECH*

Project supported by National Research Foundation of Korea (NRF) *Nov. 2014 - Dec. 2017*

- Developed core techniques for a large-scale indoor scene reconstruction framework.
- An intermediate outcome is publised to Visual Computer (special issue on CGI 2016).

### Kinect Reality: Real-time 3D Scanning based Augmented Reality

*POSTECH & MSRA*

ICT/SW Creative Research Project with MSRA *Nov. 2011 - Jul. 2015*

- Participated as a lead researcher.
- Developed various components of a RGB-D based 3D reconstruction framework.
- Kinect Reality: Real-time 3D Scanning Based Augmented Reality (2011-2012)
- Structural Information Analysis for 3D Scene Reconstruction (2012-2013)
- Interactive 3D Floor Plane Reconstruction from RGB-D Video (2013-2014)
- Hybrid Model Representation for Progressive Indoor Scene Reconstruction (2014-2015)
- Several workshop papers are published.

### Kinect Graffiti: 3D Reconstruction and Drawing with Microsoft Kinect

*POSTECH*

Undergraduate Research Project II *Sept. 2011 - Dec. 2011*

- Implemented 3D reconstruction and drawing application using Microsoft Kinect for second undergraduate research project.
- Variant of volumetric representation is developed for real-time drawing on reconstructed scene.

### Seamless Video Cloning using Mean-Value Coordinates

*POSTECH*

Undergraduate Research Project I *Mar. 2011 - Jun. 2011*

- Implemented seamless video cloning algorithm using mean-value coordinates for undergraduate research project.
- In this project, I used CUDA parallel implementation to accelerate computation for real-time preformance

## Honors & Awards

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| 2016 | **Fellowship**, Naver PhD Fellowship | *Naver Corp.* |
| 2014 | **Fellowship**, POSTECH-Qualcomm Fellowship | *Qualcomm* |
| 2012 | **Best Kinect-Application Award**, Asian Conference of Computer Vision 2012 Workshop | *Daejeon, S.Korea* |
| 2012 | **Best Student Research Award**, Undergraduate Research Project | *POSTECH* |
| 2010 | **13th Place**, ACM-ICPC Asia Daejeon Regional | *Daejeon, S.Korea* |
| 2009 | **10th Place**, ACM-ICPC Asia Seoul Regional | *Seoul, S.Korea* |
| 2009 | **Prize for Rookie**, 11th POSTECH Programming Contest | *POSTECH* |