

# Chen Liu

Computer Science and Engineering Department, Washington University in St. Louis  
chenliu@wustl.edu • +1 (314) 813-8211 • <http://art-programmer.github.io/index.html>

## RESEARCH INTERESTS

My research interests include 3D vision and scene understanding. I am particularly interested in geometry reasoning using learning techniques.

## EDUCATION

### Washington University in St. Louis

Sep 2014 – Present

Ph.D. candidate in Computer Science

- Advisor: Yasutaka Furukawa
- GPA: 3.95/4.0
- Expected graduation: May 2019

### University of Science and Technology of China

Sep 2010 – Jun 2014

B.S. in Information Science

- GPA: 3.96/4.3
- Ranking: 3/131

## PUBLICATIONS

**Chen Liu\***, Jiaye Wu\*, Yasutaka Furukawa, “FloorNet: A Unified Framework for Floorplan Reconstruction from 3D Scans” in European Conference on Computer Vision (ECCV) 2018. (\* indicates equal contribution)

**Chen Liu**, Jimei Yang, Duygu Ceylan, Ersin Yumer, Yasutaka Furukawa, “PlaneNet: Piece-wise Planar Reconstruction from a Single RGB Image” in Computer Vision and Pattern Recognition (CVPR) 2018 (**spotlight**).

**Chen Liu**, Jiajun Wu, Pushmeet Kohli, Yasutaka Furukawa, “Raster-to-Vector: Revisiting Floorplan Transformation” in International Conference on Computer Vision (ICCV) 2017.

**Chen Liu**, Jiajun Wu, Pushmeet Kohli, Yasutaka Furukawa, “Deep Multi-Modal Image Correspondence Learning” arXiv:1612.01225, 2016.

**Chen Liu\***, Hang Yan\*, Pushmeet Kohli, Yasutaka Furukawa, “Multi-way Particle Swarm Fusion” arXiv:1612.01234, 2016. (\* indicates equal contribution)

**Chen Liu**, Pushmeet Kohli, Yasutaka Furukawa, “Layered Scene Decomposition via the Occlusion-CRF” in Computer Vision and Pattern Recognition (CVPR) 2016 (**spotlight**).

## EXPERIENCE

### MagicLeap Research

May 2018 – Present

Research Intern

- Mentors: Vijay Badrinarayanan, Zhao Chen, Khushi Gupta
- Floorplan reconstruction from image sequence.
- Reconstruct CAD model directly from raw sensor data.

### Adobe Research

May 2017 – Aug 2017

Research Intern

- Mentors: Jimei Yang, Duygu Ceylan, Ersin Yumer
- Perceive planar surfaces in a static image.
- Deploy CNN to estimate both plane parameters and masks.

**Washington University in St. Louis**

Mar 2016 – Present

Research Assistant

- High-level structured indoor modeling.
- Floorplan reconstruction from various sources.
- Layered and surface-based representation of indoor scenes.

**National Tsing Hua University**

Sep 2013 – Nov 2013

Visiting Scholar

- Generate paper popup craft designs from 2D images automatically.
- Optimize the design via solving a Mixed Integer Programming problem.

**University of Science and Technology of China**

Mar 2013 – May 2014

Undergraduate Research Assistant

- Virtual garment try-on system.
- Explore human pose estimation for the purpose of changing garment virtually.

**SKILLS****Proficient:** C/C++, Python, Lua, PyTorch, TensorFlow, Torch7, OpenCV**Experienced:** Matlab, Java, Hadoop**REFERENCES****Yasutaka Furukawa**

Assistant Professor at Simon Fraser University

furukawa@sfu.ca

**Pushmeet Kohli**

Research Scientist at DeepMind

pushmeet@google.com

**Jimei Yang**

Research Scientist at Adobe Research

jimyang@adobe.com