

Yinda Zhang

Curriculum Vitae

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Education

2014–Now **Ph.D candidate**, *Dept. of Computer Science, Princeton University.*

Advisor: Prof. Thomas Funkhouser

2009–2013 **Masters of Engineering**, *Dept. of ECE, National University of Singapore.*

Advisor: Prof. Ping Tan, Prof. Shuicheng Yan

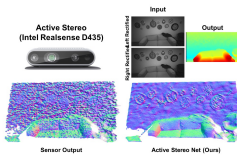
2005–2009 **Bachelor of Engineering**, *Dept. of Automation, Tsinghua University, China.*

Research Interests

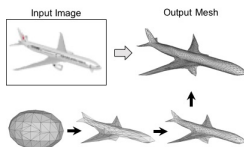
My research is in the areas of Computer Vision, including

- Scene Understanding
- Context Model
- Deep Learning
- Big Data for Vision

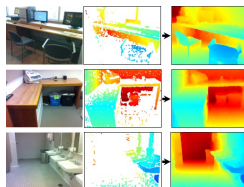
Publications



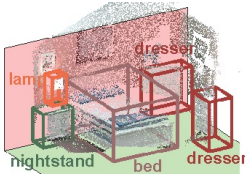
Yinda Zhang, Sameh Khamis, Christoph Rhemann, Julien Valentin, Adarsh Kowdle, Vladimir Tankovich, Shahram Izadi, Thomas Funkhouser, Sean Fanello
Active Stereo Net: End-to-End Self-Supervised Learning for Active Stereo Systems.
European Conference on Computer Vision (**ECCV**), 2018



Nanyang Wang*, **Yinda Zhang***, Zhuwen Li*, Yanwei Fu, Wei Liu, Yu-Gang Jiang
Pixel2Mesh: Generating 3D Mesh Models from Single RGB Images.
European Conference on Computer Vision (**ECCV**), 2018



Yinda Zhang, Thomas Funkhouser.
Deep Depth Completion of a Single RGB-D Image.
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018
Spotlight.



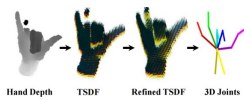
Yinda Zhang, Mingru Bai, Pushmeet Kohli, Shahram Izadi, Jianxiong Xiao.
DeepContext: Context-Encoding Neural Pathways for 3D Holistic Scene Understanding.
International Conference on Computer Vision (**ICCV**), 2017



Angel Chang*, Angela Dai*, Thomas Funkhouser*, Maciej Halber*, Matthias Niessner*,
Manolis Savva*, Shuran Song*, Andy Zeng*, **Yinda Zhang***
Matterport3D: Learning from RGB-D Data in Indoor Environments.
International Conference on 3D Vision (**3DV**), 2017



Yinda Zhang, Shuran Song, Ersin Yumer, Manolis Savva, Hailin Jin, Joon-Young Lee,
Thomas Funkhouser.
Physically-Based Rendering for Indoor Scene Understanding Using Convolutional Neural
Networks.
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017.



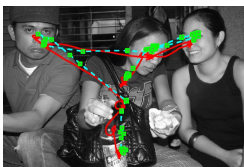
Xiaoming Deng*, Shuo Yang*, **Yinda Zhang***, Ping Tan, Liang Chang, Hongan Wang.
Hand3D: Hand Pose Estimation using 3D Neural Network.
arXiv:1704.02224v1 [cs.CV], 7 Apr 2017



Xiaoming Deng*, **Yinda Zhang***, Ye Yuan, Ping Tan, Liang Chang, Shuo Yang, Hongan
Wang.
Joint Hand Detection and Rotation Estimation using CNN.
IEEE Transactions on Image Processing



Fisher Yu, **Yinda Zhang**, Shuran Song, Ari Seff, Jianxiong Xiao .
LSUN: Construction of a Large-scale Image Dataset using Deep Learning with Humans
in the Loop
arXiv:1506.03365 [cs.CV], 10 Jun 2015



Pingmei Xu, Krista A Ehinger, **Yinda Zhang**, Adam Finkelstein, Sanjeev R. Kulkarni,
Jianxiong Xiao
TurkerGaze: Crowdsourcing Saliency with Webcam based Eye Tracking.
arXiv:1504.06755 [cs.CV], 25 Apr 2015.



Yinda Zhang, Shuran Song, Ping Tan, Jianxiong Xiao.
PanoContext: A Whole-room 3D Context Model for Panoramic Scene Understanding.
European Conference on Computer Vision (**ECCV**), 2014.
Oral presentation.



Yinda Zhang, Jianxiong Xiao, James Hays, Ping Tan.
FrameBreak: Dramatic Image Extrapolation by Guided Shift-Maps.
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2013.

Academic Services

Dataset and Tools:

- Matterport3D: Scene-level RGB-D Dataset for Indoor Environment
- PBRS: Physically based Rendering for Indoor Scene Understanding
- SUNCG: A Large 3D Model Repository for Indoor Scenes
- Marvin: A minimalist GPU-only N-dimensional ConvNet framework
- LSUN: Large Scale Dataset for Scene Understanding
- PanoBasic: a MATLAB Toolbox for Panorama Image Processing

Academic Activities:

- Co-chair of Large-scale Scene Understanding Workshop, (**LSUN in CVPR 2015, 2016, 2017**)
- Co-organizer of Large-scale Scene Understanding Challenge, (**2015, 2016, 2017**)
- Program Committee of Scene Understanding Workshop (**SUNw CVPR 2014, 2015**)
- Speaker of Tutorial: 3D Deep Learning with Marvin, (**CVPR 2016**)

Reviewer of Conferences:

- Computer Vision and Pattern Recognition (**CVPR**)
- International Conference on Computer Vision (**ICCV**)
- European Conference on Computer Vision (**ECCV**)
- Annual Conference on Neural Information Processing Systems (**NIPS**)
- Asian Conference on Computer Vision (**ACCV**)
- International Conference on Pattern Recognition (**ICPR**)

Reviewer of Journals:

- Transactions on Pattern Analysis and Machine Intelligence (**PAMI**)
- International Journal of Computer Vision (**IJCV**)
- Transactions on Visualization and Computer Graphics (**TVCG**)
- Machine Vision and Application (**MVAP**)

Working & Research Experience

2015.9–2016.1 **Teaching Assistant**, *Princeton University*, Princeton.

- Course: COS429 Computer Vision
- Course: COS435 Information Retrieval, Discovery, and Delivery

2018.4–Now **Part-time Internship**, *Google through AutoRoboto Inc.*, Mountain View, US.

- Mentor: Dr. Sean Fanello and Dr. Julien Valentin

- 2017.9–2018.3 **Full-time Internship**, *Google through AutoRoboto Inc.*, Mountain View, US.
- Mentor: Dr. Sean Fanello
 - Achievements:
 - Work on accurate active stereo matching algorithm.
- 2017.5–2017.8 **Part-time Internship**, *Matterport Inc.*, Sunnyvale, US.
- Mentor: Dr. Matt Bell.
 - Achievements:
 - Improve depth sensing quality using deep learning approach.
- 2016.5–2016.8 **Full-time Internship**, *Adobe Research*, San Jose, US.
- Mentor: Dr. Ersin Yumer.
 - Achievements:
 - Deep FCN for pixelwise indoor scene understanding with multiple tasks.
 - Created a dataset with photo-realistic color images.
- 2015.6–2015.9 **Full-time Internship**, *Microsoft Research*, Seattle, US.
- Mentor: Dr. Shahram Izadi, Dr. Pushmeet Kohli.
 - Achievements:
 - Deep 3D deep learning architecture for indoor object localization.
 - Create synthetic RGBD indoor scene dataset.
- 2010–2011 **Full-time Internship**, *Microsoft Research Asia*, China.
- Mentor: Dr. Jian Sun, Senior Researcher.
 - Achievements:
 - Program a real-time implementation of Deformable Part Model for object detection.
 - Design an efficient human pose annotation tool.
 - Design a random forest based human detection system trained on large scale data.
- 2011–2014 **Full-time Research Engineer**, *National University of Singapore*, Singapore.
- Supervisor: Prof. Ping Tan, Dept. of ECE.
 - Achievements:
 - Design a method to significantly extrapolate the field of view of a photo-graph by learning from a roughly aligned, wide-angle guide image of the same scene category.
 - Design an efficient building scene modeling algorithm by optimizing MRF built with 3D point visibility information.
 - Build a level-set based interactive video segmentation system.
- 2008–2009 **Student Research Training Program**, *Tsinghua University*, China.
- Advisor: Prof. Yanda Li (Academician of the Chinese Academy of Science)
 - Detailed achievements:
 - A bioinformatics research project focusing on finding latent relations between Untranslated Region of mRNA through statistical study of gene sequence.