

# XINGYI ZHOU

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## EDUCATION

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**Department of Computer Science, The University of Texas at Austin** Aug 2017 - present  
Ph.D. student in Computer Science, GPA: 3.868/4.0

**School of Computer Science, Fudan University** Sept 2013 - June 2017  
Bachelor in Computer Science and Technology, Outstanding Student Honor Program  
GPA: 3.59/4.0, Rank 10/69, Major GPA: 3.70/4.0

## EXPERIENCE

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**Deep Learning Lab, The University of Texas at Austin** Mar 2018 - Present  
**Advisor:** Prof. Philipp Krähenbühl  
**Research Topic:** Object detection, core vision, 3D vision.

**Google Research & Machine Intelligence** June 2018 - Aug 2018  
**Host:** Tyler Zhu, Dr. Kevin Murphy  
**Research Topic:** Human pose estimation, human mesh reconstruction.

**Graphics & AI Lab, The University of Texas at Austin** Aug 2017 - May 2018  
**Advisor:** Prof. Qixing Huang  
**Research Topic:** 3D Vision, 3D keypoint estimation, domain adaptation.

**Visual Computing Group, Microsoft Research Asia (MSRA)** Feb 2016 - Aug 2016  
**Mentor:** Dr. Yichen Wei  
**Research Topics:** Human/hand pose estimation.

**Institute for Media Computing, Fudan University** Nov 2014 - June 2017  
**Advisor:** Prof. Wei Zhang, Prof. Xiangyang Xue  
**Research Topics:** Pose estimation, object detection, fine-grained image categorization.

## PUBLICATIONS (GOOGLE SCHOLAR)

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**Xingyi Zhou**, Dequan Wang, Philipp Krähenbühl. *Objects as Points*, arXiv technical report, 2019

- Propose to represent objects as points and use keypoint detection to detect the bounding box center point. The method works for object detection, 3d estimation, and multi-person pose estimation.
- Achieve state-of-the-art performance on detection, pose estimation while being significantly faster.
- Code and pre-trained model are available on *Github*.

**Xingyi Zhou**, Jiacheng Zhuo, Philipp Krähenbühl. *Bottom-up Object Detection by Grouping Extreme and Center Points*, In Computer Vision and Pattern Recognition (CVPR) 2019

- Propose a bottom-up object detection method that detects the extreme (top, left, bottom, right-most) points and the center points and groups them into bounding boxes.
- Perform on-par with the state-of-the-art region based detection methods on COCO. The estimated extreme points can be used for instance segmentation and with competitive performance.
- Code and pre-trained model are available on *Github*.

**Xingyi Zhou**, Arjun Karpur, Linjie Luo, Qixing Huang. *StarMap for Category-agnostic Viewpoint and Keypoint Estimation*, In European Conference on Computer Vision (ECCV), 2018

- Propose the first category-agnostic keypoint representation which is flexible with a varying number of keypoints, and apply this representation on viewpoint estimation task.
- Achieve state-of-the-art performance of keypoint and viewpoint estimation on Pascal3D+ dataset.
- Code and pre-trained model are available on *Github*.

**Xingyi Zhou**, Arjun Karapur, Chuang Gan, Linjie Luo, Qixing Huang. *Unsupervised Domain Adaptation for 3D Keypoint Estimation via View Consistency*, In European Conference on Computer Vision (ECCV), 2018

- Introduce an domain adaptation technique for 3D keypoint estimation from a single depth scan/image based on training on un-supervised image from different viewpoints of the same object.
- Achieve better performance on four different types of datasets than baselines and state-of-the-arts.
- Code and pre-trained model are available on *Github*.

**Xingyi Zhou**, Qixing Huang, Xiao Sun, Xiangyang Xue, Yichen Wei. *Towards 3D Human Pose Estimation in the Wild: A weakly-supervised Approach*, In International Conference on Computer Vision (ICCV), 2017

- Propose a fusion training method and a 3D geometric loss for 3D pose estimation from in-with-wild images with only 2D label.
- Achieve the stage-of-the-art performance on Human3.6M dataset and MPI-INF-3DHP dataset.
- Code and pre-trained model are available on *Github*.

**Xingyi Zhou**, Xiao Sun, Wei Zhang, Shuang Liang, Yichen Wei. *Deep Kinematic Pose Regression*, In ECCV Workshop on Geometry Meets Deep Learning, 2016

- Extend the kinematic model layer to general articulated pose estimation.
- Achieve the stage-of-the-art performance on Human3.6M dataset for 3D human pose estimation.

**Xingyi Zhou**, Qingfu Wan, Wei Zhang, Xiangyang Xue, Yichen Wei. *Model-based Deep Hand Pose Estimation*, In International Joint Conference on Artificial Intelligence (IJCAI), 2016

- Propose to directly embed a kinematic model in deep learning for hand pose estimation.
- Achieve the stage-of-the-art performance on NYU and ICVL dataset.
- Code, pre-trained model, and prediction are available on *Github*.

## SELECTED AWARDS

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Provost's Graduate Excellence Fellowship, UT Austin	Sept 2017
Honors Student in Top Talent Undergraduate Training Program, Fudan University	June 2017
Shanghai Outstanding Graduate	June 2017
Fudan First Class Scholarship	Sept 2016
Award of Excellence for Stars of Tomorrow Internship Program, Microsoft Research Asia	Aug 2016
Xiyuan Undergraduate Research Grant, Fudan University	May 2016
ACM International Collegiate Programming Contest, Asia Regional, Gold medal	Dec 2014

## SERVICES

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**Conference Reviewer:** ECCV 2018, CVPR 2019, ICCV 2019, BMVC 2019  
**Student volunteer:** ICCV 2017

## SKILLS

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**Programming Languages:** Python, C/C++, Lua, Matlab  
**Libraries:** pyTorch, tensorflow, Torch, Caffe