# Yu Xiang

Contact University of Washington 734-277-4576 Information Computer Science & Engineering yuxiang@cs.washington.edu 185 Stevens Way, Paul G. Allen Center http://yuxng.github.io/ Seattle, WA 98195-2350 Robotics, Computer Vision, Machine Learning, Deep Learning Research Interests **EDUCATION** University of Michigan, Ann Arbor, Michigan, USA Sep 2010 - Dec 2015Ph.D. in Electrical Engineering: Systems Dissertation: 3D Object Representations for Recognition Advisor: Prof. Silvio Savarese Sep  $2007 - Jul\ 2010$ Fudan University, Shanghai, China M.S. in Computer Science Dissertation: Graphic Models for Semantic Context Modeling in Automatic Image Annotation Advisor: Prof. Xiangdong Zhou Fudan University, Shanghai, China Sep 2003 – Jul 2007 B.S. in Computer Science EXPERIENCE University of Washington, Seattle, Washington, USA Aug 2016 – present Postdoctoral Researcher • Advisor: Prof. Dieter Fox

Stanford University, Stanford, California, USA Jan 2016 - Jul 2016

Postdoctoral Researcher

• Advisor: Prof. Silvio Savarese

Stanford University, Stanford, California, USA Sep 2013 – Dec 2015

Visiting Student Researcher • Advisor: Prof. Silvio Savarese

NEC Laboratories America, Inc., Cupertino, California, USA Jun 2015 – Sep 2015 May 2014 - Aug 2014

Summer Research Intern

• Department: Media Analytics

**Publications** Subcategory-aware Convolutional Neural Networks for Object Proposals and Detection

Yu Xiang, Wongun Choi, Yuanqing Lin and Silvio Savarese

In IEEE Winter Conference on Applications of Computer Vision (WACV), 2017.

Anticipating Accidents in Dashcam Videos

Fu-Hsiang Chan, Yu-Ting Chen, Yu Xiang and Min Sun

In Asian Conference on Computer Vision (ACCV), 2016 (Oral).

ObjectNet3D: A Large Scale Database for 3D Object Recognition

Yu Xianq, Wonhui Kim, Wei Chen, Jingwei Ji, Christopher Choy, Hao Su, Roozbeh Mottaghi, Leonidas Guibas and Silvio Savarese

In European Conference on Computer Vision (ECCV), pp. 160-176, 2016 (Spotlight Oral).

Pose Estimation Errors, the Ultimate Diagnosis

Carolina Redondo-Cabrera, Roberto López-Sastre, Yu Xiang, Tinne Tuytelaars and Silvio Savarese In European Conference on Computer Vision (ECCV), pp. 118-134, 2016.

Deep Metric Learning via Lifted Structured Feature Embedding

Hyun Oh Song, Yu Xiang, Stefanie Jegelka and Silvio Savarese

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 4004-4012, 2016 (Spotlight Oral).

## Learning to Track: Online Multi-Object Tracking by Decision Making

Yu Xiang, Alexandre Alahi and Silvio Savarese

In International Conference on Computer Vision (ICCV), pp. 4705-4713, 2015 (Oral).

## Data-Driven 3D Voxel Patterns for Object Category Recognition

Yu Xiang, Wongun Choi, Yuanqing Lin and Silvio Savarese

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1903-1911, 2015 (Oral).

## A Coarse-to-Fine Model for 3D Pose Estimation and Sub-category Recognition

Roozbeh Mottaghi, Yu Xiang and Silvio Savarese

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 418-426, 2015.

#### Monocular Multiview Object Tracking with 3D Aspect Parts

Yu Xiang\*, Changkyu Song\*, Roozbeh Mottaghi and Silvio Savarese (\*equal contribution) In European Conference on Computer Vision (ECCV), pp. 220-235, 2014.

# Beyond PASCAL: A Benchmark for 3D Object Detection in the Wild

Yu Xiang, Roozbeh Mottaghi and Silvio Savarese

In IEEE Winter Conference on Applications of Computer Vision (WACV), pp. 75-82, 2014.

## Object Detection by 3D Aspectlets and Occlusion Reasoning

Yu Xiang and Silvio Savarese

In IEEE Workshop on 3D Representation and Recognition (3dRR), pp. 530-537, 2013.

### Object Co-detection

Sid Yingze Bao,  $Yu\ Xiang$  and Silvio Savarese

In European Conference on Computer Vision (ECCV), vol. 7572, pp. 86-101, 2014.

## Estimating the Aspect Layout of Object Categories

Yu Xiang and Silvio Savarese

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 3410-3417, 2012.

# Semantic Context Modeling with Maximal Margin Conditional Random Fields for Automatic Image Annotation

Yu Xiang, Xiangdong Zhou, Zuotao Liu, Tat-Seng Chua and Chong-Wah Ngo

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 3368-3375, 2010.

### Learning Contextual Metrics for Automatic Image Annotation

Zuotao Liu, Xiangdong Zhou, Yu Xiang and Yan-Tao Zheng

In Advances in Multimedia Information Processing - PCM, vol. 6297, pp. 124-135, 2010.

# A Revisit of Generative Model for Automatic Image Annotation using Markov Random Fields

Yu Xiang, Xiangdong Zhou, Zuotao Liu, Tat-Seng Chua and Chong-Wah Ngo

In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1153-1160, 2009.

### Adaptive Model for Web Image Semantic Automatic Image Annotation

Hongtao Xu, Xiangdong Zhou, Yu Xiang and Baile Shi

In Journal of Software (in Chinese), vol. 21, no. 9, pp. 2183-2195, 2009.

# Exploiting Flickr's Related Tags for Semantic Annotation of Web Images

Hongtao Xu, Xiangdong Zhou, Yu Xiang and Baile Shi

In ACM International Conference on Image and Video Retrieval (CIVR), no. 46, 2009.

## Automatic Web Image Annotation via Web-Scale Image Semantic Space Learning

Hongtao Xu, Xiangdong Zhou, Lan Lin, Yu Xiang and Baile Shi

In Advances in Data and Web Management, vol. 5446, pp. 211-222, 2009.

## TEACHING EXPERIENCE

The C Programming Language, Fudan University, Shanghai, China

 $Sep\ 2009-Jan\ 2010$ 

Teaching Assistant

## Awards and Honors

Outstanding Master's Thesis Award of Shanghai

2012

## Professional Service

#### Journal Reviewer

- IEEE Robotics and Automation Letters
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- International Journal of Computer Vision
- Computer Vision and Image Understanding
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Transactions on Multimedia

## Conference Reviewer

- IEEE International Conference on Robotics and Automation
- IEEE Conference on Computer Vision and Pattern Recognition
- International Conference on Computer Vision
- European Conference on Computer Vision
- Asian Conference on Computer Vision
- British Machine Vision Conference
- Neural Information Processing Systems

## Program Chair

• 5th International IEEE Workshop on 3D Representation and Recognition, 2015

### Program Committee

• 4th International IEEE Workshop on 3D Representation and Recognition, 2013

## Tutorial Organizer

• 3D Object Geometry from Single Image Tutorial at International Conference on 3D Vision, 2016

# SKILLS AND LANGUAGES

Programming Languages: C/C++, MATLAB, Python, CUDA, JAVA

Libraries: Tensorflow, Caffe, OpenCV, OpenGL Operating Systems: Linux, Windows and Mac OS X

Languages: English, Chinese