# Fanyi Xiao


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**Research Interests**

I am interested in computer vision and machine learning, with a focus on designing models to effectively learn from videos in order to better understand videos (with tasks like recognition, detection and segmentation) and beyond (e.g., images and sounds).

**Education**

**University of California Davis, Computer Science Dept.**, Davis, CA, USA

Ph.D. student, Computer Science

- Advisor: Prof. Yong Jae Lee

**Carnegie Mellon University, Robotics Institute**, Pittsburgh, PA, USA

M.S., Robotics, 2014

- Advisors: Prof. Martial Hebert and Prof. Yaser Sheikh
- Thesis: *Model Recommendation for Large Scale Exemplar-based Object Detection*

**Central South University, Computer Science Department**, Changsha, China

B.S., Computer Science, 2012

- Thesis: *Facial Expression Analysis with Active Appearance Model*

**Publications**


[1] Fanyi Xiao, Yong Jae Lee, Kristen Grauman, Jitendra Malik, and Christoph Feichtenhofer. Audiovisual slowfast networks for video recognition. 2019. (Under submission).

[2] Daniel Bolya, Chong Zhou, Fanyi Xiao, and Yong Jae Lee. Yolact++: Better real-time instance segmentation. 2019. (Under submission).

[3] Fanyi Xiao, Haotian Liu, and Yong Jae Lee. Identity from here, pose from there: Self-supervised disentanglement and generation of objects using unlabeled videos. In *International Conference on Computer Vision (ICCV)*, 2019.

[4] Daniel Bolya, Chong Zhou, Fanyi Xiao, and Yong Jae Lee. Yolact: Real-time instance segmentation. In *International Conference on Computer Vision (ICCV)*, 2019. (Oral presentation).

[5] Xitong Yang, Xiaodong Yang, Ming-Yu Liu, Fanyi Xiao, Larry S Davis, and Jan Kautz. Step: Spatio-temporal progressive learning for video action detection. In *Computer Vision and Pattern Recognition (CVPR)*, 2019.

[6] Fanyi Xiao and Yong Jae Lee. Video object detection with an aligned spatial-temporal memory. In *European Conference on Computer Vision (ECCV)*, 2018.

[7] Wenjian Hu, Krishna Kumar Singh*, Fanyi Xiao*, Jinyoung Han, Chen-Nee Chuah, and Yong Jae Lee (* equal contribution). Who will share my image? predicting the content diffusion path in online social networks. In *ACM International Conference on Web Search and Data Mining (WSDM)*, 2018.

[8] Fanyi Xiao, Leonid Sigal, and Yong Jae Lee. Weakly-supervised visual grounding of phrases with linguistic structures. In *Computer Vision and Pattern Recognition (CVPR)*, 2017.

[9] Fanyi Xiao and Yong Jae Lee. Track and segment: An iterative unsupervised approach for video object proposals. In *Computer Vision and Pattern Recognition (CVPR)*, 2016. (Spotlight presentation).

[10] Krishna Singh, Fanyi Xiao, and Yong Jae Lee. Track and transfer: Watching videos to simulate strong human supervision for weakly-supervised object detection. In *Computer Vision and Pattern Recognition (CVPR)*, 2016.

[11] Fanyi Xiao and Yong Jae Lee. Discovering the spatial extent of relative attributes. In *International Conference on Computer Vision (ICCV)*, 2015. (Oral presentation).

[12] Fanyi Xiao and Martial Hebert. Efficient model evaluation with bilinear separation model. In *Winter Conference on Applications of Computer Vision (WACV)*, 2015.

[13] Zhiding Yu, Chunjing Xu, Deyu Meng, Fanyi Xiao, Wenbo Liu, and Jianzhuang Liu. Transitive distance clustering with k-means duality. In *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014.

[14] Iljoo Baek, Taylor Stine, Denver Dash, Fanyi Xiao, Yaser Ajmal Sheikh, Yair Movshovitz-Attias, Mei Chen, Martial Hebert, and Takeo Kanade. Physical querying with multi-modal sensing. In *Winter Conference on Applications of Computer Vision (WACV)*, 2014.

## Awards

- Google Cloud Platform Research Grant, 2019
- Best Graduate Researcher Award, CS Dept. of UC Davis, 2018
- Azure Research Award, Microsoft, 2017
- Graduate Fellowship, UC Davis, 2015
- AWS Research Grant, Amazon Web Services, Inc., 2015
- Excellent Undergraduate Thesis, CSU, 2012
- Top Grade Scholarship (University-wide highest honor, 0.8%), CSU, 2010
- Sunward Scholarship (0.4%), Sunward Corporation, 2010
- 1st Grade Scholarship (6%), CSU, 2009
- National Scholarship (1%), Ministry of Education of China, 2009

## Experience

**Facebook AI Research (FAIR)**, Menlo Park, CA

*Summer Intern* **June 2019 - Nov 2019**

- Work on Audiovisual video understanding (recognition, detection and representation learning). [Under submission]

**NVIDIA Research**, Santa Clara, CA

*Summer Intern* **July 2017 - Oct 2017**

- Work on action detection in videos. Proposed an iterative method for detecting action tubes. [CVPR 2019]

**Disney Research**, Pittsburgh, PA

*Summer Intern* **June 2016 - Sept 2016**

- Work on weakly supervised vision-language alignment (more specifically, producing segmentation masks for free-form language inputs) by exploiting linguistic structure. [CVPR 2017]

## Skills

- Programming: Python, C/C++, Lua, Matlab, Java
- Misc: PyTorch, Torch7, Caffe, Caffe2, Linux, LaTeX

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| Related Graduate Courses | • CMU: Computer Vision / Machine Learning / Convex Optimization<br>Math Fundamentals for Robotics / Learning-based Methods in Vision<br>Mechanics of Manipulation<br>• UC Davis: Visual Recognition |
| Service | • Reviewer, Computer Vision and Pattern Recognition (CVPR), 2018-20<br>• Reviewer, International Conference on Computer Vision (ICCV), 2019<br>• Program Committee, AAAI Conference on Artificial Intelligence (AAAI), 2019<br>• Reviewer, Asian Conference on Computer Vision (ACCV), 2018<br>• Reviewer, Winter Conference on Applications of Computer Vision (WACV), 2015-18 |