

Tong XIAO

Research Scientist at Facebook Oculus

Education

- 08/2013 - 09/2017 **The Chinese University of Hong Kong**
Ph. D. in Electronic Engineering, advised by Prof. Xiaogang Wang
Research interests include computer vision and deep learning
- 08/2009 - 08/2013 **Tsinghua University, Beijing**
B. Eng. in Computer Science and Technology

Experience

- 10/2017 - Present **Facebook Oculus** Menlo Park, CA
Research Scientist
We build innovative computer vision and deep learning technologies to connect the world in virtual reality and enable interactions with people.
- 08/2013 - 09/2017 **Dept. of Electronic Engineering** MMLAB, The Chinese University of Hong Kong
Research assistant with Prof. Xiaogang Wang
- ILSVRC2016 champions. We won the **1st places** in ImageNet detection, video object tracking, and Places2 scene parsing. I designed and pre-trained the base convolutional neural network, which was later fine-tuned on the object detection, tracking, and scene parsing tasks. See <http://image-net.org/challenges/LSVRC/2016/results> for more details.
- Researched on learning generic feature representations from multiple domains of data sources. When applied to the person re-identification, the proposed method outperforms state-of-the-art by large margin on five datasets. Resulted in a CVPR 2016 paper.
- 05/2014 - 08/2014 **Institute of Deep Learning (IDL), Baidu** Beijing
Intern - Researched on training a convolutional neural network with massive noisy labeled web images for classification. The proposed method leverages the need of large-scale manually labeled datasets, which are expensive to obtain. Resulted in a CVPR 2015 paper.
- 07/2012 - 03/2013 **Face++, Megvii** Beijing
Intern - Developed the initial version face detection and tracking systems for the start-up company in collaboration. My work contributed to
- <http://www.faceplusplus.com> – an online service platform for face recognition
- Crows Coming – the first move-your-body game on iOS

Publications

End-to-End Deep Kronecker-Product Matching for Person Re-Identification

Yantao Shen, **Tong Xiao**, Hongsheng Li, Shuai Yi, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

Deep Group-Shuffling Random Walk for Person Re-Identification

Yantao Shen, Hongsheng Li, **Tong Xiao**, Shuai Yi, Dapeng Chen, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

Video Person Re-Identification With Competitive Snippet-Similarity Aggregation and Co-Attentive Snippet Embedding

Dapeng Chen, Hongsheng Li, **Tong Xiao**, Shuai Yi, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

Joint Detection and Identification Feature Learning for Person Search

Tong Xiao, Shuang Li, Bochao Wang, Liang Lin, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Spotlight, 2017

Learning Deep Feature Representations with Domain Guided Dropout for Person Re-identification

Tong Xiao, Hongsheng Li, Wanli Ouyang, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016

Identity-Aware Textual-Visual Matching with Latent Co-attention

Shuang Li, **Tong Xiao**, Hongsheng Li, Wei Yang, Xiaogang Wang
IEEE International Conference on Computer Vision (ICCV), 2017

Learning Deep Neural Networks for Vehicle Re-ID with Visual-spatio-temporal Path Proposals

Yantao Shen, **Tong Xiao**, Hongsheng Li, Shuai Yi, Xiaogang Wang
IEEE International Conference on Computer Vision (ICCV), 2017

Learning from Massive Noisy Labeled Data for Image Classification

Tong Xiao, Tian Xia, Yi Yang, Chang Huang, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015

Person Search with Natural Language Description

Shuang Li, **Tong Xiao**, Hongsheng Li, Bolei Zhou, Dayu Yue, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017

Object Detection in Videos with Tubelet Proposal Networks

Kai Kang, Hongsheng Li, **Tong Xiao**, Wanli Ouyang, Junjie Yan, Xihui Liu, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017

Crafting GBD-Net for Object Detection

X Zeng, W Ouyang, J Yan, H Li, **T Xiao**, K Wang, Y Liu, Y Zhou, B Yang, Z Wang, H Zhou, X Wang
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017

T-CNN: Tubelets with convolutional neural networks for object detection from videos

K Kang, H Li, J Yan, X Zeng, B Yang, **T Xiao**, C Zhang, Z Wang, R Wang, X Wang, W Ouyang
arXiv preprint arXiv:1604.02532, 2016

Convolutional Neural Networks with Low-rank Regularization

Cheng Tai, **Tong Xiao**, Yi Zhang, Xiaogang Wang, Weinan E
International Conference on Learning Representations (ICLR), 2016

DeepReID: Deep Filter Pairing Neural Network for Person Re-Identification

Wei Li, Rui Zhao, **Tong Xiao**, Xiaogang Wang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2014

Professional Activities

Journal Reviews

IET Computer Vision, 2018
International Journal of Computer Vision (IJCV), 2017
IEEE Transactions on Multimedia (TMM), 2017
IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2017
IEEE Transactions on Image Processing (TIP), 2017
Pattern Recognition, 2017
Multimedia Tools and Applications (MTAP), 2017
Computer Vision and Image Understanding (CVIU), 2016
IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2016

Conference Reviews

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018, 2017
IEEE Visual Communications and Image Processing (VCIP) 2017
International Conference on Computer Vision (ICCV), 2017
European Conference on Computer Vision (ECCV), 2018, 2016 (**Outstanding Reviewer Award**)

Awards

2015 - 2016	Champions of Multiple Tracks	ImageNet Large Scale Visual Recognition Challenge (ILSVRC) Results (CUImage and CUVideo entries): https://goo.gl/NzFr1V and https://goo.gl/pz5syg News (in Chinese): https://goo.gl/6nPVmm and https://goo.gl/wJqHaX
2010 - 2012	Undergraduate Scholarship	Tsinghua University Awarded to top 10% students each year under overall evaluation
05/2010	Champion	14th Tsinghua University Artificial Intelligence Contest Develop AI programs for a computer game and compete with other players Website: https://ai.net9.org News (in Chinese): http://goo.gl/AJGBW2
12/2008	First Prize, 3rd Place	National Olympiad in Informatics (Province) Competitors design and implement algorithms to solve problems

Skills

Open-ReID <https://github.com/Cysu/open-reid>
An open source PyTorch library for person re-identification

Programming Languages

Proficient in C/C++, Python, and Matlab. Experienced with Java and JavaScript.