

TAO KONG

BASIC INFORMATION

- Homepage: <https://taokong.github.io>
- Google Scholar: <https://scholar.google.com/citations?user=kSUXLPkAAAAJ&hl=en>
- Github: <https://github.com/taokong>
- Email: taokongcn@gmail.com Phone: (+86)-18710113786 (China), 15713151377 (USA)
- Main research: *Computer Vision, Deep learning, Instance Level Recognition, Object Detection*

EDUCATION

- University of Pennsylvania, Philadelphia, USA** *2018.10 - now*
Visiting scholar in GRASP Lab, advised by Prof. Jianbo Shi, expected 2019.03
- Tsinghua University, Beijing, China** *2014.09 - now*
Ph.D in Computer Science & Technology, expected 2019.07
- Shandong University, Jinan, China** *2010.09 - 2014.06*
B.Eng. in Computer Science & Technology

SELECTED PUBLICATIONS

- **Tao Kong**, Fuchun Sun, Huaping Liu, Wenbing Huang. Deep Feature Pyramid Reconfiguration for Object Detection, **ECCV** 2018.
 - A novel architecture reconfiguring the feature hierarchy in a flexible yet effective way: global attention and local reconfiguration.
 - The models achieve consistent and significant boosts compared with other state-of-the-arts.
- **Tao Kong**, Fuchun Sun, Anbang Yao, Huaping Liu, Yurong Chen, Ming Lu. RON: Reverse Connection with Objectness Prior Networks for Object Detection, **CVPR** 2017.
 - We propose reverse connection to traditional convolutional networks to enable the network to detect objects on multi-levels **in real-time!**
 - Utilizing objectness prior to reduce the searching space of objects.
 - The **1st place of 2016 IROS Robotic Grasping and Manipulation Competition** based on RON and HyperNet!
 - **Code**: <https://github.com/taokong/RON>, 320+ stars, 130+ forks, 40+ citations.
- **Tao Kong**, Anbang Yao, Yurong Chen, Fuchun Sun. HyperNet: Towards Accurate Region Proposal Generation and Joint Object Detection, **CVPR** 2016 (***Spotlight Presentation***).
 - The Hyper Features well incorporate deep but highly semantic, intermediate but really complementary, and shallow but naturally high-resolution features of the image.
 - Adding Hyper Features to Faster R-CNN achieves **42.0 AP on COCO object detection task**, which outperforms the winner of MS COCO 2016!
 - **200+ citations** according to Google Scholar and the idea has been successfully used in PVANet (one of the top lightweight deep neural networks), winner of the MS COCO 2017 pose estimation task (<https://arxiv.org/abs/1711.07319>), and pedestrian detection (<https://arxiv.org/abs/1705.02757>).

- Di Guo, **Tao Kong**, Fuchun Sun, Huaping Liu, Object discovery and grasp detection with a shared convolutional neural network, **ICRA 2016** (***Oral Presentation***).
 - **100 fps** on a real robotic platform to discover and grasp a target object from the stack!
- **Tao Kong**, Gongping Yang, Lu Yang. A hierarchical classification method for finger knuckle print recognition. EURASIP Journal on Advances in Signal Processing 2014 (1), 44, 2014 (***SCI***)
- **Tao Kong**, Gongping Yang, Lu Yang. A new finger-knuckle-print ROI extraction method based on probabilistic region growing algorithm. International Journal of Machine Learning and Cybernetics 5 (4), 569-578, 2014 (***SCI***)

EXPERIENCE

Research Intern

2018.04 - 2018.08

- Microsoft Research Asia (MSRA), Beijing, China
- Advisor: Dr. Jifeng Dai
- Design computer vision algorithms to deal with large scale missing/noisy label instance-level recognition problems.

Technology Partner

2016.07 - 2018.02

- A Machine Vision Startup
- Defect inspection systems using modern computer vision/machine learning algorithms.

Research Intern

2015.07 - 2016.07

- Intel Labs China (ILC), Beijing, China
- Advisor: Dr. Anbang Yao
- Develop Convolutional Neural Networks to learn better representations for fast and accurate object detection.

Research Assistant

2014.09 - now

- Tsinghua University
- Advisor: Prof. Fuchun Sun & Huaping Liu
- Design computer vision algorithms using Deep Learning for object detection & robot grasping.

PROFESSIONAL ACTIVITIES

- Peer reviewer of TIP, CVPR 2018, IJCAI 2018, IROS 2017, AAAI 2019

AWARDS AND HONOR

- **Top 2** on PASCAL VOC 2012 leaderboard, 2016.11
- The **1st place** of 2016 IROS Robotic Grasping and Manipulation Competition, 2016.10
- Division Recognition Award (DRA): Excellence in Speed & Execution, ILC, 2016
- The **1st Price** of CUMCM(China Undergraduate Mathematical Contest in Modeling), 2014
- The CCF Outstanding Undergraduate; The IBM Outstanding Undergraduate, 2014

TECHNICAL STRENGTHS

Computer Languages
Programming Library

Python, C++, Java, Matlab
Caffe, Pytorch, OpenCV, PCL