Kai Kang, PhD

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Linkedin

Research Interests

Deep Learning, Computer Vision, Antispoofing, Video Object Detection, Crowd Analysis

Education

08/2013 - 09/2017	**The Chinese University of Hong Kong**, Hong Kong Department of Electronic Engineering Thesis: Intelligent Video Analysis with Deep Learning Supervisors: Prof. Xiaogang Wang and Prof. Hongsheng Li Degree: PhD Research area: computer vision, deep learning, video object detection
09/2009 - 07/2013	**University of Science and Technology of China**, Hefei, Anhui, China School of the Gifted Young Degree: B.S. in Optics with an honor degree (top 5%)

Working Experiences

Apple Inc. **One Apple Park Way,** Cupertino, CA 95014, USA	03/2021-present	**Staff Machine Learning Engineer & Manager**
	04/2020 - 03/2021	**Senior Machine Learning Engineer & Manager**
	10/2018 - 04/2020	**Senior Machine Learning Engineer** Technical lead for computer vision and machine learning algorithm development for camera related applications.
	10/2017 - 09/2018	**Computer Vision & Machine Learning Engineer** Directly responsible for Face ID antispoofing algorithm development on iPhone X, iPhone XS, XS Max and XR since iOS 11.3

Awards & Honors

2020 **Outstanding Young Author Award**, IEEE Circuits and Systems Society.

2016 **Winner** (CUVideo, **first author**), **ImageNet** Large Scale Visual Recognition Challenge 2016 (ILSVRC2016), Object detection from video/track with provided data.

2015 **Winner** (CUVideo, **first author**), **ImageNet** Large Scale Visual Recognition Challenge 2015 (ILSVRC2015), Object detection from video with provided data.

2012 **Best Software Tools Project** (team leader), International Genetically Engineered Machine (iGEM) Competition World Championship, MIT, Massachusetts, USA

2012 **Gold Medal** (team leader), International Genetically Engineered Machine (iGEM) Competition Asia Jamboree, HKUST, Hong Kong

2013 First Outstanding Graduates with Honor Degrees (**top 5%**), University of Science and Technology of China

2012 Innovation Scholarship, Institute of Physics, Chinese Academy of Sciences

Publications (Google Scholar)

1 **Kang, K.**, Ouyang, W., Li, H., & Wang, X. (2016). Object Detection from Video Tubelets with Convolutional Neural Networks. CVPR, 2016. (**Spotlight**)

2 **Kang, K.**, Li, H., Xiao, T., Ouyang, W., Yan, J., Liu, X., & Wang, X. (2017). Object Detection in Videos with Tubelet Proposal Networks. CVPR, 2017.

3 **Kang, K.***, Li, H.*, Yan, J., Zeng, X., Yang, B., Xiao, T., ... & Ouyang, W. (2017). T-CNN: Tubelets with Convolutional Neural Networks for Object Detection from Videos. TCSVT Special Issue on Large Scale and Nonlinear Similarity Learning for Intelligent Video Analysis. (**Winning** method for ILSVRC 2015 challenge; IEEE CASS 2020 **Outstanding Young Author Award**)

4 **Kang, K.**, & Wang, X. (2014). Fully Convolutional Neural Networks for Crowd Segmentation. arXiv preprint arXiv:1411.4464.

5 Shao, J., **Kang, K.**, Loy, C. C., & Wang, X. (2015, June). Deeply Learned Attributes for Crowded Scene Understanding. CVPR, 2015 (**Oral**)

6 Shao, J., Loy, C. C., **Kang, K.**, & Wang, X. (2016). Slicing Convolutional Neural Network for Crowd Video Understanding. CVPR, 2016. (**Spotlight**)

7 Zhang, C., **Kang, K.**, Li, H., Wang, X., Xie, R., & Yang, X. (2016). Data-driven Crowd Understanding: a Baseline for a Large-scale Crowd Dataset. IEEE Trans on Multimedia.

8 Shao, J., Loy, C. C., **Kang, K.**, & Wang, X. (2016). Crowded Scene Understanding by Deeply Learned Volumetric Slices. T-CSVT, 2016.

Patents

2019/2/7 Method and system for object tracking - US20190043205A1
Xiaogang Wang, Jing Shao, Chen-Change LOY, **Kai Kang**

2018/5/25 Target object detection method, apparatus and system and neural network structure - CN108073864A
Kai Kang, Hongsheng Li, Wanli Ouyang, Xiaogang Wang

2018/1/19	A system and a method for predicting crowd attributes - CN107615272A Xiaogang Wang, Chen Change Loy, Jing Shao, **Kai Kang**
2017/6/27	Method and device for detecting object in video, and electronic equipment - CN106897742A **Kai Kang**, Hongsheng Li, Tong Xiao, Wanli Ouyang, Junjie Yan, Xihui Liu, Xiaogang Wang

Featured Open-source Projects (GitHub)

vdetlib	First open-source Python library for ImageNet object detection from video challenge
T-CNN	**Winning** project for ImageNet 2015 object detection from video challenge
REBORN	**Winning** project for iGEM 2012 Best Software Tools