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	10/01/2018 - present	Senior Machine Learning Engineer Technical lead for computer vision and machine learning algorithm development for camera related applications.
	10/02/2017 - 09/31/2018	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

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)

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