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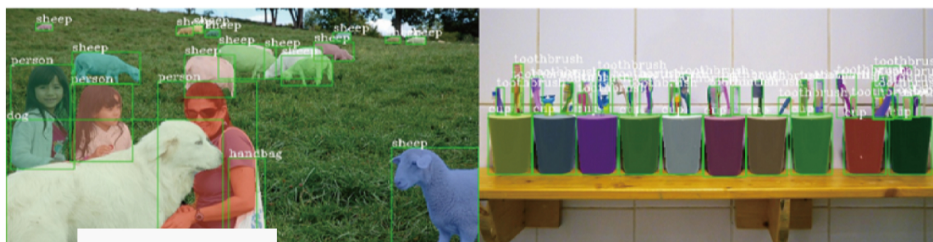
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Multimedia Laboratory – Pioneer in the research on Artificial Intelligence

#Imaging

#Deeplearning

#2019



PROJECT QUICK FACTS

Principal Investigator

Prof. TANG Xiaou

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Award

~ Best Paper Award, IEEE Conference on Computer Vision and Pattern Recognition 2009 - Outstanding Student Paper Award, AAAI Conference on Artificial Intelligence 2015 - 1st place, Object Detection Task in COCO Challenge 2018 - 1st place, Object Detection, Object Detection from Videos, Scene Parsing Tasks, ImageNet Challenge 2016 - 1st place, Object Detection from Videos, ImageNet Challenge 2015 - 1st place, Untrimmed Video Classification, ActivityNet Challenge 2016

The Multimedia Laboratory at The Chinese University of Hong Kong was established by Prof. Xiaou TANG in July 2001. It currently has 5 faculty members and more than 40 PhD students. Its research directions include computer vision, machine learning and deep learning. It was recognized as one of the top 10 AI labs in the world at GTC 2016, a world-wide technology summit. It has won many awards in top academic conferences (including Best Paper Award at CVPR 2009 and Outstanding Student Paper Award at AAAI 2015) and 1st places in top international computer vision challenges. Because of the research excellence of the students at Multimedia Laboratory of CUHK, they have received multiple Google PhD fellowship, Microsoft Research Asia Fellowships, and Hong Kong PhD fellowships. Prof. Xiaou TANG also found SenseTime Group Limited, which is currently the most valued AI start-up in the world.



Multimedia Laboratory at CUHK proposed one of the first face recognition algorithm that surpasses human performance. On LFW, a large-scale and very challenging face recognition benchmark, algorithms from Multimedia Laboratory has attained an impressive accuracy of 98.52%, which, for the first time in the world, surpasses human performance (97.53%).

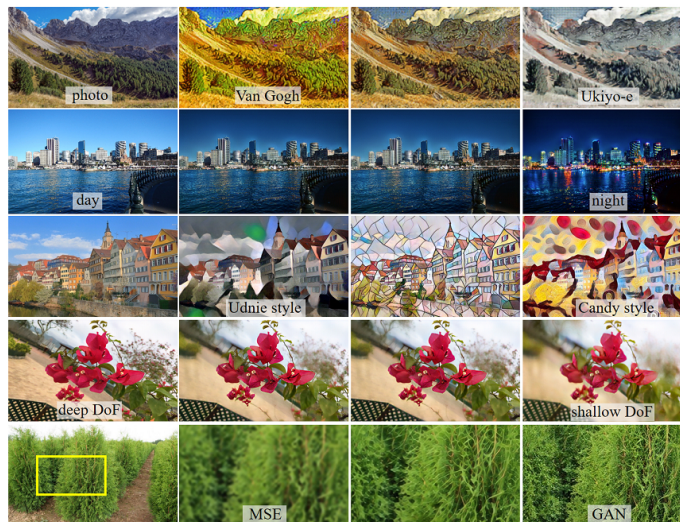




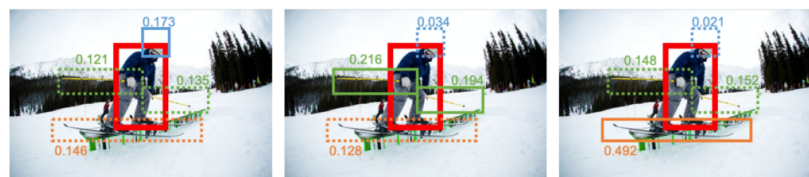
Team of Multimedia Laboratory at CUHK (MMDet) won the COCO Detection Challenge 2018 and released their codebase for object detection and instance segmentation named mmdetection. The mmdetection draws a lot of attention and is highly valued in the research area. Given an image, object detection requires the algorithm indicates all objects which belongs to specific categories with bounding boxes. In addition to object detection, instance segmentation also requires segmentation masks of objects inside bounding boxes. Figures show some instance segmentation results of team of Multimedia Laboratory at CUHK in COCO Detection Challenge 2018.



Image super-resolution aims at recovering high-resolution images from low-resolution images. Multimedia Laboratory at CUHK proposed the first image super-resolution by deep learning. The journal paper on image super-resolution was selected as the "Most Popular Article" by IEEE Transactions on Pattern Analysis and Machine Intelligence in 2016. Their subsequent work (ESRGAN) on super-resolution also achieves state-of-the-art performance in the world.



Multimedia Laboratory at CUHK has lots of works on low-level vision tasks, such as image style transfer, image super-resolution and etc. It also proposed algorithms for continuous imagery effect transition, which can be used for many tasks of continuous transfer.



Q: Is the skier wearing goggles?
A: Yes

Q: Is this skier using poles?
A: Yes

Q: What is the person standing on?
A: Skis

Multimedia Laboratory at CUHK proposed an automatic Question & Answering system that can answer a question related to an input question. The proposed algorithm achieved state-of-the-art performance on VQA 2.0 benchmark and was chosen as one the oral papers at IEEE Conference on Computer Vision and Pattern Recognition 2019.

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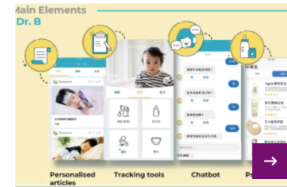
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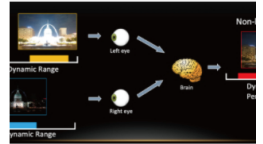
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