

# CHUAN WANG

☎ (+852) 5162 6756 (Primary, Hong Kong)

(+86) 184 7674 7586 (Second, China)

✉ [wangchuan2400@gmail.com](mailto:wangchuan2400@gmail.com)

📄 Homepage: [wangchuan.github.io/cv](http://wangchuan.github.io/cv)

Specialize in Computer Vision, Machine Learning and Video Processing.

## OBJECTIVE

I am seeking a Research Scientist position related to Computer Vision / Deep Learning / Video Processing in IT industry where I can contribute my proficient programming skills, hands-on experiences, energy to the company.

## EDUCATION

Ph.D, Computer Science (Vision and Graphics), 2015, *The University of Hong Kong (HKU)*.

B.Eng, Electronic Information Engineering, 2010, *University of Science and Technology of China (USTC)*.

## PROFESSIONAL SKILLS

- Specialize in computer vision, image / video processing and deep learning; e.g. stereo vision, image matting, video segmentation, convolutional neural network.
- Proficient in C++, MATLAB; Frequent user of Python; Familiar with Java and C#;
- Proficient in OpenCV; Frequent user of Caffe and OpenCL; Familiar with TensorFlow;
- Being a hungry learner with fast learning skills.

## WORK AND RESEARCH EXPERIENCES

**Staff Researcher in Computer Vision and Machine Learning, Lenovo, Hong Kong** (April. 2015 - Now)

- Convolutional Neural Network (CNN), Recurrent Neural Network (RNN) and their Applications.
  - 1) CAPTCHA Cracking: A CNN Based OCR Module for Web Crawler.
    - Designed a pipeline to recognize alphabet or Chinese texts from noisy CAPTCHA, including synthesizing diverse training data, building CNN model and training the model.
  - 2) Speaker Identification via RNN. ([Paper](#) accepted in AAI 2016, [Demo](#))
    - Co-developed a speaker identification system based on Multi-modal LSTMs technique. Demonstrated its performance of higher precision ( $\approx 9\%$  precision gain) than state-of-the-art CNN based method.
- 3D Camera: RGBD Image Algorithms for Dual-camera Mobile Phone, Lenovo [VIBE S1](#). ([Demo in YouTube](#))
  - 1) Image Refocus
    - Developed an image refocus algorithm which utilizes the depth information to blur the image to simulate an effect of "large aperture, shallow depth of field".
    - Developed efficient algorithms and applied parallel computing (OpenCL) to speed up the blurring process, to achieve real-time interaction.
  - 2) Image Matting
    - Co-developed an automatic selfie image matting algorithm. Over-segmentation, region-wise matting and parallel processing are involved to save memory and speed up the program.

**Research Assistant, The University of Hong Kong, Hong Kong** (Sep. 2010 - Jan. 2015)

- Video Object Co-Segmentation. ([Paper](#) accepted in IEEE TMM 2014, [Project Page](#))
  - Developed a common-foreground co-segmentation system for a group of videos automatically.
  - Took advantage of appearance and motion features in the video group discriminatively, and designed a customized subspace clustering algorithm to differentiate foreground and background within each video but correlate the common foreground in various videos.
  - Achieved over 20% precision gain and  $\approx 30\%$  computing time loss compared with state-of-the-art method.
- Video Vectorization via Tetrahedral Remeshing. (Paper accepted in IEEE TIP 2017, [Demo in YouTube](#))
  - Developed an algorithm converting a raster video to its vectorized version. Implemented various mesh processing algorithms, e.g. mesh simplification, subdivision, deformation and rendering etc.

## SELECTED PUBLICATIONS

- **Chuan Wang**, Jie Zhu, Yanwen Guo, Wenping Wang. "Video Vectorization via Tetrahedral Remeshing", IEEE Trans. on Image Processing, 2017. (to appear)
- Jimmy SJ. Ren, Yongtao Hu, Yu-Wing Tai, **Chuan Wang**, Li Xu, Wenxiu Sun, Qiong Yan, "Look, Listen and Learn - A Multimodal LSTM for Speaker Identification", The AAI Conference on Artificial Intelligence, 2016.
- **Chuan Wang**, Yanwen Guo, Jie Zhu, Linbo Wang, Wenping Wang. "Video Object Co-segmentation via Subspace Clustering and Quadratic Pseudo-Boolean Optimization in an MRF Framework." IEEE Trans. on Multimedia 2014.