CHUAN WANG

Specialize in Deep Learning, Computer Vision and Video Processing.

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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, deep learning and mesh processing;
  - e.g. stereo vision, image matting, video segmentation, neural network and mesh simplification.
- Proficient in C++, MATLAB; Frequent user of Python; Familiar with Java and C#;
- Proficient in OpenCV; Frequent user of TensorFlow, Caffe, OpenCL, OpenGL and Qt;
- 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)

- Neural Networks including CNN, RNN, GAN and their Applications.

1) Speaker Identification via RNN. (Paper accepted in AAAI 2016, Project Page)
   - Co-developed a speaker identification system based on Multi-modal LSTMs technique.
   - Demonstrated its ≈ 9% precision gain over state-of-the-art CNN based method.
2) Deep Learning Based Solutions for Lenovo's External or Internal Customers.
   - Blood cell classification for Mindray Bio-Medical Electronics Co., Ltd (Accuracy ≈ 92%, Project Page).
   - Bone age analysis via deep regression network for Shanghai Children's Hospital (Accuracy ≈ 86%, Project Page).
   - CAPTCHA cracker via multi-label classification, for internal usage. (Project Page).
3) Lenovo DeepNEX: A Multi-tenant Private Cloud Platform for Deep Learning Development. (Project Page)
   - Integrated deep learning toolkits e.g. Caffe, TensorFlow into Docker for access in the cloud.
   - Provided classical deep learning demos and tutorials to customers.
   - Customers include universities, institutes or companies; Various copies sold which have brought over 1 million USD revenue to Lenovo; This number is still increasing and is expected to be highly increased in 2018.

- 3D Camera: RGBD Image Algorithms for Dual-camera Smartphone, Lenovo VIBE S1. (Project Page)

1) A Real-time Interactive Image Refocus Algorithm Based on Depth Information, Image Blurring and OpenCL.
2) An Automatic Selfie Cutout Algorithm Based on Over-segmentation and Region-wise Matting.

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

- Video Vectorization. (Paper accepted in IEEE TIP 2017, Project Page, Demo in YouTube)
  - Created the first algorithm converting a raster video to its vectorized version by tetrahedral remeshing.
  - Developed various mesh processing algorithms, e.g. mesh simplification, subdivision and deformation.
- 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.
  - Achieved over 20% precision gain and ≈ 30% computing time loss compared with state-of-the-art method.

PUBLICATIONS

- **Chuan Wang**, Jie Zhu, Yanwen Guo, Wenping Wang. "Video Vectorization via Tetrahedral Remeshing", IEEE Trans. on Image Processing, 2017.
- 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 AAAI 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.