

Research Interests

Computer Vision, Machine Learning, Computational Photography.

Education

2013–2017 **Ph.D, Information Engineering**, *The Chinese University of Hong Kong*.

advisor: Prof. Xiaoou Tang and Prof. Xiaogang Wang

gpa: 3.9/4.0

2009–2013 **B.Eng, Information Engineering**, *Huazhong University of Science and Technology*.

advisor: Prof. Wenyu Liu and Prof. Xiang Bai

gpa: 91/100, ranking 1st in Advanced Class (top students in EE/CS fields)

Research Experience

2017–present **University of California, Berkeley, ICSI.**

- Post-doctoral Research Fellow, with Prof. Stella Yu
- Project: *Learning to Understand Aerial/Ground Street Scenes*

2013–2017 **The Chinese University of Hong Kong, Multimedia Lab.**

- Ph.D, with Prof. Xiaoou Tang and Prof. Xiaogang Wang
- Project: *Deep Learning Human-centric Representation in the Wild*

summer 2016 **Google Research, Machine Intelligence Group.**

- Research Intern, with Dr. Yiming Liu and Dr. Aseem Agarwala
- Project: *Deep Generative Models for Videos*

2013–2014 **Microsoft Research, Visual Computing Group.**

- Research Intern, with Dr. Lu Yuan and Dr. Jian Sun
- Project: *Computational Photography using Burst Images*

2012–2013 **Huazhong University of Science and Technology, MC Lab.**

- Research Assistant, with Prof. Wenyu Liu
- Project: *Learning Junction Template for Object Detection*

summer 2012 **University of Victoria, SIMBIOSES Lab.**

- Visiting Scholar, with Prof. Jens Weber
- Project: *Formal Software Engineering of High Confidence Medical Devices*

2010–2012 **Huazhong University of Science and Technology, BMAL Lab.**

- Research Assistant, with Prof. Xinge You
- Project: *Leveraging Edge Cues for Cell Nuclei Detection and Segmentation*

Selected Publications

- 3d Yue Wang, Yongbin Sun, **Ziwei Liu**, Sanjay Sarma, Michael Bronstein, Justin Solomon, Dynamic Graph CNN for Learning on Point Clouds, *ArXiv 2018*
- segmentation Xiaohang Zhan, **Ziwei Liu**, Ping Luo, Xiaoou Tang, Chen Change Loy, Mix-and-Match Tuning for Self-Supervised Semantic Segmentation, *AAAI 2018 (Spotlight)*

- video **Ziwei Liu**, Raymond Yeh, Xiaoou Tang, Yiming Liu, Aseem Agarwala, Video Frame Synthesis by Deep Voxel Flow, *ICCV 2017* (Oral)
- fashion Sijie Yan, **Ziwei Liu**, Ping Luo, Shi Qiu, Xiaogang Wang, Xiaoou Tang, Unconstrained Fashion Landmark Detection via Hierarchical Recurrent Transformer Networks, *ACM MM 2017* (Full Research Paper)
- segmentation Xiaoxiao Li, Yuankai Qi, Zhe Wang, Kai Chen, **Ziwei Liu**, Jianping Shi, Ping Luo, Chen Change Loy, Xiaoou Tang, Video Object Segmentation with Re-identification, *CVPR Workshop on DAVIS Video Segmentation Challenge 2017* (Winning Entry)
- segmentation Xiaoxiao Li, **Ziwei Liu**, Ping Luo, Chen Change Loy, Xiaoou Tang, Not All Pixels Are Equal: Difficulty-aware Semantic Segmentation via Deep Layer Cascade, *CVPR 2017* (Spotlight)
- segmentation **Ziwei Liu**, Xiaoxiao Li, Ping Luo, Chen Change Loy, Xiaoou Tang, Deep Learning Markov Random Field for Semantic Segmentation, *TPAMI 2017*
- robotics Zerui Wang, **Ziwei Liu**, Qianli Ma, Alexis Cheng, Yun-hui Liu, Sungmin Kim, Anton Deguet, Austin Reiter, Peter Kazanzides, Russell H. Taylor, Vision-Based Calibration of Dual RCM-Based Robot Arms in Human-Robot Collaborative Minimally Invasive Surgery, *RA-L 2017*
- face Raymond Yeh, **Ziwei Liu**, Dan B Goldman, Aseem Agarwala, Semantic Facial Expression Editing using Autoencoded Flow, *ArXiv 2016*
- fashion **Ziwei Liu**, Sijie Yan, Ping Luo, Xiaogang Wang, Xiaoou Tang, Fashion Landmark Detection in the Wild, *ECCV 2016*
- fashion **Ziwei Liu**, Ping Luo, Shi Qiu, Xiaogang Wang, Xiaoou Tang, CompFashion: Powering Robust Clothes Recognition and Retrieval with Rich Annotations, *CVPR 2016*
- face Ping Luo, Zhenyao Zhu, **Ziwei Liu**, Xiaogang Wang, Xiaoou Tang, Face Model Compression by Distilling Knowledge from Neurons, *AAAI 2016* (Oral)
- segmentation **Ziwei Liu**, Xiaoxiao Li, Ping Luo, Chen Change Loy, Xiaoou Tang, Semantic Image Segmentation via Deep Parsing Network, *ICCV 2015* (Oral)
- face **Ziwei Liu**, Ping Luo, Xiaogang Wang, Xiaoou Tang, Deep Learning Face Attributes in the Wild, *ICCV 2015*
- video **Ziwei Liu**, Lu Yuan, Xiaoou Tang, Matt Uyttendaele, Jian Sun, Fast Burst Images Denoising, *TOG 2014*

Talks

- 2017 @ VALSE: *Deep Learning Human-centric Representation in the Wild*
- 2017 @ ICCV: *Video Frame Synthesis using Deep Voxel Flow*
- 2016 @ Google: *Deep Fashion Understanding*
- 2015 @ ICCV: *Semantic Image Segmentation via Deep Parsing Network*
- 2014 @ SIGGRAPH Asia: *Fast Burst Images Denoising*
- 2013 @ HUST: *Pathological Microscopic Image Segmentation*

Professional Activities

- conf. reviewer CVPR, ICCV, ECCV, NIPS, AAAI, SIGGRAPH
- jour. reviewer TPAMI, IJCV, TIP, TMM, TNNLS, TCSVT

Awards and Honors

- 2017 ICCV Young Researcher Award
- 2016 CUHK Reaching Out Award
- 2015 CUHK IE Best Poster Presentation Award
- 2013 Hong Kong PhD Fellowship
- 2012 Microsoft Young Fellowship
- 2012 Meritorious Winner, Mathematical Contest in Modeling
- 2011 National First Prize, Contemporary Undergraduate Mathematical Contest in Modeling
- 2010 Campus Excellent Prize, Seed Cup Programming Contest

2010,2011,2012 National Scholarship

Patents

- 2017 PCT/US2017/054460: Video Frame Synthesis with Deep Learning
- 2016 PCT/CN2016/044063: Method and Apparatus for Fashion Recognition and Retrieval
- 2015 PCT/CN2015/083537: Method and Apparatus for Semantic Image Labeling
- 2014 PCT/CN2014/001120: Method and Apparatus for Predicting Face Attributes

Product Transfer

- Microsoft Windows BLINK App
- SenseTime FashionEye Search Engine
- Google Google Clips

Relevant Skills

- Languages C++, Python, MATLAB, etc.
- Platforms Caffe, TensorFlow, PyTorch, etc.