

# Ziwei Liu

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## Research Interests

**Computer Vision.**

**Deep Learning.**

**Computational Photography.**

## Education

- 2013–2017 **Ph.D, Information Engineering, The Chinese University of Hong Kong.**  
advisor: Prof. Xiaou 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  
gpa: 91/100, ranking 1st in Advanced Class (top students in EE/CS fields)

## Research Experience

- 2013–present **The Chinese University of Hong Kong, Multimedia Lab.**  
○ Ph.D, with Prof. Xiaou Tang and Prof. Xiaogang Wang  
○ Project: *Deep Human-centric Analysis*
- summer 2016 **Google Research, Machine Intelligence Group.**  
○ Research Intern, with Dr. Yiming Liu and Dr. Aseem Agarwala  
○ Project: *Deep Generative Models*
- 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*

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## Selected Publications

- 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*
- 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*

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## Talks

- 2017 @ CUHK: *Deep Learning Human-centric Representation in the Wild*
- 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*

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## Professional Activities

conf. reviewer    AAAI, NIPS, ACCV, ECCV, ICCV, CVPR, SIGGRAPH  
jour. reviewer    TCI, SPL, SPM, PRL, CVIU, TCSVT, TNNLS, TMM, TIP, IJCV, TPAMI

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## Awards and Honors

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

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## Product Transfer

Microsoft    Windows BLINK App  
SenseTime    FashionEye Search Engine

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## Relevant Skills

Programming    C++, Python, MATLAB, etc.  
Languages  
Deep Learning    Caffe, TensorFlow, Torch, etc.  
Platforms