

XIAOWEI HU

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Address: Rm 1024, SHB, The Chinese University of Hong Kong, Shatin, Hong Kong.

EDUCATION

The Chinese University of Hong Kong (CUHK)

Ph.D. in Computer Science and Engineering

Advisor: Prof. Pheng-Ann Heng & Prof. Chi-Wing Fu

08/2016 - Present

Expected graduation date: 07/2020

South China University of Technology (SCUT)

B.Eng. in Computer Science and Technology

GPA: 3.95/4.0 (**rank 1st** in All-English-Teaching Union Class)

★ Selected by SCUT for a special class for the most promising students

09/2012 - 07/2016

RESEARCH INTERESTS

Computer vision, image processing, low-level vision, and deep learning.

HONORS AND AWARDS

Hong Kong Ph.D. Fellowship (the highest scholarship for students studying in Hong Kong)	2016 - 2020
Certificate of Merit for Excellent Teaching Assistant awarded by CSE Department, CUHK	2018
Top 10 Outstanding Students at SCUT (rank 1st , the highest award for students at SCUT)	2016
Google Excellence Scholarship (one of 58 winners in China)	2015
Tencent Outstanding Scholarship (the only undergraduate winner at SCUT)	2015
National Scholarship (the highest national wide scholarship for undergraduate students in China)	2013
Gold Award of Pan-Pearl-River-Delta University IT Project Competition in China	2016
First Prize and Best Practical Award of University IT Project Competition in Guangdong Province	2016
First Prize of Adolescents Science & Technology Innovation Contest in Hebei Province	2011

PUBLICATION HIGHLIGHTS

- [1] *Direction-Aware Spatial Context Features for Shadow Detection and Removal*
Xiaowei Hu, Chi-Wing Fu, Lei Zhu, Jing Qin, and Pheng-Ann Heng
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2019
- [2] *Depth-Attentional Features for Single-Image Rain Removal*
Xiaowei Hu, Chi-Wing Fu, Lei Zhu, and Pheng-Ann Heng
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019
- [3] *Saliency-Aware Texture Smoothing*
Lei Zhu*, **Xiaowei Hu***, Chi-Wing Fu, Jing Qin, and Pheng-Ann Heng (*joint 1st authors)
IEEE Transactions on Visualization and Computer Graphics (**TVCG**), 2019
- [4] *SINet: A Scale-Insensitive Convolutional Neural Network for Fast Vehicle Detection*
Xiaowei Hu, Xuemiao Xu, Yongjie Xiao, Hao Chen, Shengfeng He, Jing Qin, and Pheng-Ann Heng
IEEE Transactions on Intelligent Transportation Systems (**TITS**), 2019
- [5] *Probabilistic Multilayer Regularization Network for Unsupervised 3D Brain Image Registration*
Lihao Liu, **Xiaowei Hu**, Lei Zhu, and Pheng-Ann Heng
International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2019
- [6] *Deep Attentive Features for Prostate Segmentation in 3D Transrectal Ultrasound*
Yi Wang, Haoran Dou, **Xiaowei Hu**, Lei Zhu, Xin Yang, Ming Xu, et al.
IEEE Transactions on Medical Imaging (**TMI**), 2019
- [7] *Context-aware Augmented VR Interaction*
Yang Tian, Ruihui Li, Xiao Tang, **Xiaowei Hu**, Shengdong Zhao, Chi-Wing Fu, and Pheng-Ann Heng
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**), 2019

- [8] *Direction-Aware Spatial Context Features for Shadow Detection*
Xiaowei Hu, Lei Zhu, Chi-Wing Fu, Jing Qin, and Pheng-Ann Heng
 IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018 (**Oral**, acceptance rate: **2.1%**)
- [9] *Recurrently Aggregating Deep Features for Salient Object Detection*
Xiaowei Hu, Lei Zhu, Jing Qin, Chi-Wing Fu, and Pheng-Ann Heng
 AAAI Conference on Artificial Intelligence (**AAAI**), 2018 (**Spotlight**)
- [10] *R³Net: Recurrent Residual Refinement Network for Saliency Detection*
 Zijun Deng*, **Xiaowei Hu***, Lei Zhu, Xuemiao Xu, Jing Qin, Guoqiang Han, and Pheng-Ann Heng (*joint 1st authors)
 International Joint Conference on Artificial Intelligence (**IJCAI**), 2018 (**Oral**)
- [11] *Bidirectional Feature Pyramid Network with Recurrent Attention Residual Modules for Shadow Detection*
 Lei Zhu, Zijun Deng, **Xiaowei Hu**, Chi-Wing Fu, Xuemiao Xu, Jing Qin, and Pheng-Ann Heng
 European Conference on Computer Vision (**ECCV**), 2018
- [12] *Deep Attentional Features for Prostate Segmentation in Ultrasound*
 Yi Wang, Zijun Deng, **Xiaowei Hu**, Lei Zhu, Xin Yang, Xuemiao Xu, Pheng-Ann Heng, and Dong Ni
 International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2018

PAPERS UNDER REVIEW

- [1] *Anonymous*
Xiaowei Hu, Yitong Jiang, Chi-Wing Fu, and Pheng-Ann Heng
 IEEE International Conference on Computer Vision (**ICCV**), 2019
- [2] *Anonymous*
 Zijun Deng, Lei Zhu, **Xiaowei Hu**, Chi-Wing Fu, Xuemiao Xu, Qing Zhang, Jing Qin, and Pheng-Ann Heng
 IEEE International Conference on Computer Vision (**ICCV**), 2019
- [3] *Ψ -Net: Stacking Densely Convolutional LSTMs for Sub-cortical Brain Structure Segmentation*
 Lihao Liu*, **Xiaowei Hu***, Lei Zhu, Chi-Wing Fu, Jing Qin, and Pheng-Ann Heng (*joint 1st authors)
 IEEE Transactions on Medical Imaging (**TMI**)
- [4] *R³Net: Recurrent Residual Refinement Network for Saliency Detection*
 Zijun Deng, Lei Zhu, **Xiaowei Hu**, Xuemiao Xu, Jing Qin, Guoqiang Han, and Pheng-Ann Heng
 IEEE Transactions on Multimedia (**TMM**)
- [5] *Aggregating Attentional Dilated Features for Salient Object Detection*
 Lei Zhu, Jiaying Chen, **Xiaowei Hu**, Chi-Wing Fu, Xuemiao Xu, Jing Qin, and Pheng-Ann Heng
 IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**)

WORK EXPERIENCE

- | | |
|--|-------------------|
| Research Intern, The Chinese University of Hong Kong
Advisor: Prof. Pheng-Ann Heng
Worked on deep learning techniques for vehicle detection | 06/2015 - 08/2015 |
| Research Intern, Hong Kong Baptist University
★ Selected by the outstanding undergraduate research opportunity program
Advisor: Prof. Yiu-Wing Leung & Doc. Hai Liu
Worked on fault-tolerant algorithms for cognitive radio networks | 08/2014 |
| Undergraduate Research Assistant, South China University of Technology
Advisor: Prof. Xuemiao Xu
Led a team and worked on a project of the intelligent transportation system (authorized three China invention patents) | 01/2013 - 07/2016 |

PROFESSIONAL ACTIVITIES

Invited Talk

- ◇ AI Massive Open Online Course on “Direction-aware Spatial Context Features for Shadow Detection” July 2018

Conference Reviews

- ◇ CVPR 2019, ICCV 2019, MICCAI 2019

Journal Reviews

- ◇ Neurocomputing, The Visual Computer, IEEE Access

Teaching Assistant at CUHK

- ◇ Advanced Topics in Computer Graphics and Visualization
- ◇ Digital Logic and Systems
- ◇ Linear Algebra and Vector Calculus for Engineers

Spring 2018
Fall 2016-2018
Spring 2017