

XIAOWEI HU

Email: xw.hu@cse.cuhk.edu.hk ◊ Homepage: <https://xw-hu.github.io/>

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

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| 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] *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%**)

- [8] *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**)
- [9] *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**)
- [10] *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
- [11] *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*
Xiaowei Hu, Chi-Wing Fu, Lei Zhu, and Pheng-Ann Heng
 IEEE International Conference on Computer Vision (**ICCV**), 2019
- [3] *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
- [4] *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**)
- [5] *Anonymous*
 Xiaomeng Li, Lequan Yu, **Xiaowei Hu**, Chi-Wing Fu, and Pheng-Ann Heng
 International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**), 2019
- [6] *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**)
- [7] *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**)
- [8] *Anonymous*
 Lei Zhu, Zijun Deng, **Xiaowei Hu**, Chi-Wing Fu, Xuemiao Xu, Jing Qin and Pheng-Ann Heng
 ACM Multimedia (**ACM MM**), 2019
- [9] *Anonymous*
 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**)

WORK EXPERIENCE

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| 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

01/2013 - 07/2016

Advisor: Prof. Xuemiao Xu

Led a team and worked on a project of the intelligent transportation system (authorized three China invention patents)

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 Spring 2018
- ◇ Digital Logic and Systems Fall 2016-2018
- ◇ Linear Algebra and Vector Calculus for Engineers Spring 2017