

# 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 1<sup>st</sup>** 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, deep learning, low-level vision, and saliency computation.

## 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 1<sup>st</sup>**, 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*

**Xiaowei Hu**, Lei Zhu, Chi-Wing Fu, Jing Qin, and Pheng-Ann Heng

IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018 (**Oral**)

[2] *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**)

[3] *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 (**T-ITS**), 2018

[4] *Saliency-aware Texture Smoothing*

Lei Zhu\*, **Xiaowei Hu**\*, Chi-Wing Fu, Jing Qin, and Pheng-Ann Heng (\*joint 1<sup>st</sup> authors)

IEEE Transactions on Visualization and Computer Graphics (**TVCG**), 2018

[5] *R<sup>3</sup>Net: Recurrent Residual Refinement Network for Saliency Detection*

Zijun Deng\*, **Xiaowei Hu**\*, Lei Zhu, Xuemiao Xu, Jing Qin, Guoqiang Han, and Pheng-Ann Heng (\*joint 1<sup>st</sup> authors)

International Joint Conference on Artificial Intelligence (**IJCAI**), 2018 (**Oral**)

[6] *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

[7] *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

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- [1] *Anonymous*  
**Xiaowei Hu**, Chi-Wing Fu, Lei Zhu, and Pheng-Ann Heng  
Submitted to IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019
- [2] *Anonymous*  
**Xiaowei Hu**, Chi-Wing Fu, Lei Zhu, and Pheng-Ann Heng  
Submitted to IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019
- [3] *Direction-aware Spatial Context Features for Shadow Detection and Removal*  
**Xiaowei Hu**, Chi-Wing Fu, Lei Zhu, Jing Qin, and Pheng-Ann Heng  
Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)
- [4] *Deep Attentional Features for Prostate Segmentation in 3D Transrectal Ultrasound*  
Yi Wang, Haoran Dou, **Xiaowei Hu**, Lei Zhu, Xin Yang, Ming Xu, et al  
Submitted to IEEE Transactions on Medical Imaging (**TMI**)
- [5] *Anonymous*  
Yang Tian, Ruihui Li, Xiao Tang, **Xiaowei Hu**, Shengdong Zhao, Chi-Wing Fu, Pheng-Ann Heng  
Submitted to 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** 06/2015 - 08/2015  
Advisor: Prof. Pheng-Ann Heng  
Worked on deep learning techniques for vehicle detection
- Research Intern, Hong Kong Baptist University** 08/2014  
★ 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
- 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

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### Invited Talk

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

### Reviewer

- ◇ IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019
- ◇ International Conference on Image, Video Processing and Artificial Intelligence (IVPAI), 2018
- ◇ Neurocomputing

### 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