

Curriculum Vitae
Xiaojuan Qi
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BIOGRAPHICAL SKETCH

Dr. Xiaojuan Qi is a postdoctoral researcher in the Department of Engineering Science, University of Oxford. She graduated from Shanghai Jiao Tong University in 2014 with a B.Eng. degree in Electronic Science. She obtained her PhD degree in Computer Science from the Chinese University of Hong Kong. From September 2016 to November 2016, she was a visiting student in the Machine Learning Group, University of Toronto. She has done an internship at Intel Visual Computing Lab from May 2017 to November 2017. Her research interests are computer vision, deep learning and medical image analysis with a focus on *Pixel-level Understanding*. She is especially interested in how to understand the semantic and geometry of the visual world.

One of her major research focus is *Semantic Segmentation* and *Instance Level Segmentation* regarding accuracy, efficiency and scalability. She has continuously contributed in this direction and published several papers on top conference venues (ICCV'15, ECCV'16, ICCV'17, CVPR'17, ECCV'18). Noteworthily, her ICCV'17 work on RGBD semantic segmentation shed light on a new direction for solving RGBD semantic segmentation problems in 3D, and it has been accepted as an oral presentation with acceptance rate of 2.1%. Besides designing new method, she has also collaborated with her labmates to design practical open-source systems including PSPNet (CVPR'17) which is the *ImageNet Scene Parsing Challenge* winner and has gathered 700+ citations in less than two years.

Aside from understanding semantics from images, geometry is another fundamental problem in computer vision. Geometry problems generally contain strong priors. Her interest in this direction is to incorporate geometric priors with data-driven deep learning approaches. In her CVPR'18 work, she has designed a novel network incorporating the relationship of depth and normal.

Another highlight of her work is on image synthesis. She and her collaborators developed a new framework for image synthesis that has shown better and more stable results compared to GAN-based solutions. The novel and inspiring work is acknowledged by all the reviewers with three *Oral* ratings in the review process and the paper has been accepted as an *Oral* presentation in CVPR'18 with acceptance rate of 2.1%.

She has also contributed in other collaborative works including *Instance Level Segmentation* (CVPR'16), *Medical Image Segmentation* (CVPR'16, AAAI'16) and *3D Object Reconstruction* (ECCV'18). In most of her collaborative works, she is one of the major contributors to development of major ideas and help implement the systems.

In summary, Dr. Xiaojuan Qi aims at high quality fundamental research. She has published more than 20 papers with total citation 1393 (google scholar statistics) in top tier conferences and journals during her less than five years' research career. To be noted, 5 of her 14 conference papers are presented as orals compared with the typical acceptance rate 2% – 5%, qualifying the quality of her research.

RESEARCH EXPERIENCES

Research Intern in Intel Visual Computing Lab

Advisor: Vladlen Koltun.

May 2017 - November 2017

Visiting Student in Machine Learning Group, University of Toronto

Advisor: Raquel Urtasun and Sanja Fidler.

September 2016 - November 2016

ACADEMIC AND PROFESSIONAL QUALIFICATION

Ph.D. in Computer Science (2014-2018), The Chinese University of Hong Kong

Thesis: Pixel-level Scene Understanding with Deep Learning

Advisor: Jiaya Jia

B.Eng. in Electronic Science (2010-2014), Shanghai Jiao Tong University, China

Ranking: 1 out of 70

Advisor: Ya Zhang

SELECTED REFEREED PAPERS

1. Image Inpainting via Generative Multi-column Convolutional Neural Networks
Yi Wang, Xin Tao, **Xiaojuan Qi**, Xiaoyong Shen, Jiaya Jia.
Conference on Neural Information Processing Systems (**NIPS**), 2018.
2. ICNet for Real-time Semantic Segmentation on High-resolution Images
Hengshuang Zhao, **Xiaojuan Qi**, Xiaoyong Shen, Jianping Shi, Jiaya Jia.
European Conference on Computer Vision (**ECCV**), 2018.
3. GAL: Geometric Adversarial Loss for Single-View 3D-Object Reconstruction
Li Jiang, Shaoshuai Shi, **Xiaojuan Qi**, Jiaya Jia.
European Conference on Computer Vision (**ECCV**), 2018.
(Oral Acceptance rate: 2.1%)
4. Self-Boosted Gesture Interactive System with ST-Net
Zhengzhe Liu*, **Xiaojuan Qi***, Lei Pang.
ACM Multimedia Conference (**MM**), 2018.
(Full Research Paper, *indicates equal contribution)
5. GeoNet: Geometric Neural Network for Joint Depth and Surface Normal Estimation
Xiaojuan Qi, Renjie Liao, Zhengzhe Liu, Raquel Urtasun, Jiaya Jia.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018.
6. Semi-parametric Image Synthesis
Xiaojuan Qi, Qifeng Chen, Jiaya Jia, Vladlen Koltun.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018.
(Oral Acceptance Rate: 2.1%)

7. Referring Image Segmentation via Recurrent Refinement Networks
Ruiyu Li, Kaican Li, Yi-Chun Kuo, Michelle Shu, **Xiaojuan Qi**, Xiaoyong Shen, Jiaya Jia.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2018.
8. 3D Graph Neural Networks for RGBD Semantic Segmentation
Xiaojuan Qi, Renjie Liao, Jiaya Jia, Sanja Fidler, Raquel Urtasun.
IEEE Conference on Computer Vision (**ICCV**), 2017.
(Oral Acceptance Rate: 2.1%)
9. Pyramid Scene Parsing Network
Hengshuang Zhao, Jianping Shi, **Xiaojuan Qi**, Xiaogang Wang, Jiaya Jia.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017.
(First Place in ImageNet Scene Parsing Challenge)
10. DCAN: Deep Contour-aware Networks for Object Instance Segmentation from Histology Images
Hao Chen, **Xiaojuan Qi**, Lequan Yu, Qi Dou, Jing Qin, Pheng-Ann Heng.
Medical Image Analysis (**MIA**), 2017.
11. Augmented Feedback in Semantic Segmentation under Image Level Supervision
Xiaojuan Qi, Zhengzhe Liu, Jianping Shi, Hengshuang Zhao, Jiaya Jia.
European Conference on Computer Vision (**ECCV**), 2016.
12. Multi-scale Patch Aggregation (MPA) for Simultaneous Detection and Segmentation
Shu Liu, **Xiaojuan Qi**, Jianping Shi, Hong Zhang, Jiaya Jia.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2016.
(Oral Acceptance Rate: 3.9%)
13. DCAN: Deep Contour-Aware Networks for Accurate Gland Segmentation.
Hao Chen, **Xiaojuan Qi**, Lequan Yu, Pheng-Ann Heng.
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2016.
14. Deep Contextual Networks for Neuronal Structure Segmentation.
Hao Chen*, **Xiaojuan Qi***, Jie-zhi Cheng, Pheng-Ann Heng.
Association for the Advancement of Artificial Intelligence (**AAAI**), 2016.
(Oral Presentation, *indicates equal contribution)
15. Semantic Segmentation with Object Clique Potential
Xiaojuan Qi, Jianping Shi, Shu Liu, Renjie Liao, Jiaya Jia.
International Conference on Computer Vision (**ICCV**), 2015.

PROFESSIONAL SERVICES

Conference Reviewer:

International Conference on Computer Vision and Pattern Recognition (CVPR) 2019.
International Joint Conference on Artificial Intelligence (IJCAI) 2019.
European Conference on Computer Vision (ECCV) 2018.
International Conference on Computer Vision and Pattern Recognition (CVPR) 2018.

Neural Information Systems Processing Conference (NIPS) 2018.
Asian Conference on Computer Vision (ACCV) 2018.
International Conference on Computer Vision (ICCV) 2017.

Journal Reviewer:

International Journal on Computer Vision (IJCV).
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI).
IEEE Transaction on Image Processing (TIP).
Pattern Recognition (PR).
Medical Image Analysis (MIA).
IEEE Transaction on Medical Imaging (TMI).

AWARDS AND RECOGNITION

Full Oral presentations (acceptance rate about 2% – 4%) at ECCV 2018, CVPR 2018, ICCV 2017, CVPR 2016, AAAI 2016.

CVPR'18 Doctoral Consortium Travel Award.

Outstanding Reviewer Award at ICCV 2017.

Hong Kong PhD Fellowship Award (200 candidates in Hong Kong), 2014 - 2018.

PSPNet won ImageNet Scene Parsing Challenge 2016.

DCAN won MICCAI Gland Segmentation Challenge 2015.

Excellent Graduate Award of Shanghai Jiao Tong University, 2014.

Excellent Student Scholarship, Shanghai Jiao Tong University, 2011 - 2013.

SCSK Corporation (Japan) Scholarship, 2013.

Pan Wenyuan (Tai Wan) Scholarship, 2011.

TALKS AND PRESENTATIONS

GeoNet for Joint Depth and Surface Normal Estimation, GAMES Webinar 2019.

Semi-parametric Image Synthesis, CVPR 2018.

Pixel-level Image Understanding, UC Berkeley (BAIR), April 2018.

3D Graph Neural Network for RGBD Semantic Segmentation, GAMES Webinar 2017.

3D Graph Neural Network for RGBD Semantic Segmentation, ICCV 2017.