Curriculum Vitae
Xiaojuan Qi
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BIOGRAPHICAL SKETCH

Xiaojuan Qi is a final-year PhD student in the Department of Computer Science and Engineering, the Chinese University of Hong Kong. She graduated from Shanghai Jiao Tong University in 2010 with a B.S. degree in Electronic Engineering. 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 and deep learning with a focus on *Pixel-level Scene Understanding*. She is interested in understanding the semantic and geometry from images.

One of her major research focus is *Semantic Segmentation* or *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). Noteworthly, 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 300+ 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) and *Medical Image Segmentation* (CVPR'16, AAAI'16). In most of her collaborative works, she is one of the major contributors to development of major ideas and help implement the systems.

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.Sc. in Computer Science (2010-2014), Shanghai Jiao Tong University, China
 Ranking: 1 out of 70
 Advisor: Ya Zhang

Refereed Papers

1. 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.

2. 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%)

3. 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%)

4. 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.

5. Semantic Segmentation with Object Clique Potential
   Xiaojuan Qi, Jianping Shi, Shu Liu, Renjie Liao, Jiaya Jia.
   International Conference on Computer Vision (**ICCV**), 2015.

6. 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.

7. 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%)

8. 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.

9. 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.

10. 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)

11. Joint Sign Language Recognition and Education System with ST-Net
    Zhengzhe Liu, Xiaojuan Qi, Lei Pang.
    ACM Multimedia Conference (**MM**), 2018.
    (Full Research Paper)

12. 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)

13. 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.

PROFESSIONAL SERVICES

Conference Reviewer:
CVPR 2018, ICCV 2017 (**Outstanding Reviewer**), IJCAI 2018, ECCV 2018, NIPS 2018.

Journal Reviewer:
Pattern Recognition, Medical Image Analysis.

AWARDS AND RECOGNITION

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

Our team, SenseCUSceneParsing, won ImageNet Scene Parsing Challenge 2016.

Our team, CUMedVision, 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.

PanWen Yuan (Tai Wan) Scholarship, 2011.