RUIHUI LI

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EDUCATION

Ph.D. in Computer Science and Engineering 08/2017 - 06/2021
The Chinese University of Hong Kong (CUHK), Hong Kong, China
Advisor: Prof. Chi-Wing Fu

B.E & M. Sc. in Computer Science and Technology 09/2010 - 07/2017
Hunan University (HNU), Changsha, China

RESEARCH INTERESTS

3D Vision, Point Cloud Processing and Generation, Computer Graphics and Deep Learning.

Specifically, I am dedicated to designing learning frameworks to enhance the quality and quantity of 3D data. It includes a series of upsampling, denoising networks for high-quality restoration, and also includes auto-augmentation, unsupervised generation models for artificially enlarging the diversity of 3D dataset. All of them help to improve the performance of 3D recognition and scene understanding.

PUBLICATION HIGHLIGHTS

[1] *SP-GAN: Sphere-Guided 3D Shape Generation and Manipulation*
Ruihui Li, Xianzhi Li, Ka-Hei Hui, and Chi-Wing Fu
ACM Transactions on Graphics (TOG) (**SIGGRAPH**), 2021.

[2] *Point Cloud Upsampling via Disentangled Refinement*
Ruihui Li, Xianzhi Li, Pheng-Ann Heng, and Chi-Wing Fu
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2021.

[3] *PointAugment: an Auto-Augmentation Framework for Point Cloud Classification*
Ruihui Li, Xianzhi Li, Pheng-Ann Heng, and Chi-Wing Fu
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**, **Oral**), 2020.

[4] *DNF-Net: a Deep Normal Filtering Network for Mesh Denoising*
Xianzhi Li, **Ruihui Li**, Lei Zhu, Chi-Wing Fu, Pheng-Ann Heng
IEEE Transactions on Visualization and Computer Graphics (**TVCG**), 2020.

[5] *PU-GAN: a Point Cloud Upsampling Adversarial Network*
Ruihui Li, Xianzhi Li, Chi-Wing Fu, Daniel Cohen-Or, Pheng-Ann Heng
IEEE International Conference on Computer Vision (**ICCV**), 2019.

[6] *Enhancing Augmented VR Interaction via Egocentric Scene Analysis*
Yang Tian, Chi-Wing Fu, Shengdong Zhao, **Ruihui Li**, Xiao Tang, Xiaowei Hu, Pheng-Ann Heng
ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**Ubicomp**), 2019.

[7] *Aggregating Complementary Boundary Contrast with Smoothing for Salient Region Detection*
Ruihui Li, Jianrui Cai, Hanling Zhang, Taihong Wang
The Visual Computer (**TVC**), 2017.

Manuscripts (under review):

[1] *Point Set Self-Embedding*
Ruihui Li, Xianzhi Li, Tien-Tsin Wong, and Chi-Wing Fu
Submitted to IEEE International Conference on Computer Vision (**ICCV**), 2021.

[2] *Non-Local Part-Aware Point Cloud Denoising*
Chao Huang, **Ruihui Li***, Xianzhi Li, Pheng-Ann Heng, Chi-Wing Fu (*co-first author)
Submitted to ACM Multimedia (**MM**), 2021.

[3] *A Rotation-Invariant Framework for Deep Point Cloud Analysis*
Xianzhi Li, **Ruihui Li**, Chi-Wing Fu, Guangyong Chen, Daniel Cohen-Or, Pheng-Ann Heng
Submitted to IEEE Transactions on Visualization and Computer Graphics (**TVCG**), 2020.

[4] *3DMol-Net: Learn 3D Molecular Representation using Adaptive Graph Convolutional Network Based on Rotation Invariance*
Chunyan Li, **Ruihui Li**, Junfeng Yao, Xiangxiang Zeng
Submitted to Information Sciences, 2021.

AWARDS AND HONORS

National Scholarships (the **highest** scholarship for graduate students in China)	2016
Second Prize in Intel Cup Undergraduate Electronic Design Contest (Advisor: Xu Cheng)	2014
Gold Award of Pan-Pearl-River-Delta University IT Project Competition in China	2014
First Prize Undergraduate Scholarship	2011&2012&2013
Award of Pacemaker to Merit Student	2011

TEACHING ASSISTANT

CSCI 5210 Advanced Topics in Computer Graphics and Visualization	Spring 2020
CSCI 3260 Principles of Computer Graphics	Fall 2018&2019
CSCI3180 Principles of Programming Language	Spring 2019
ENGG1110J Problem Solving by Programming	Spring 2018
CSCI1130 Introduction to Computing Using Java	Fall 2017

PROFESSIONAL ACTIVITIES

Invited Talks:

- Point Cloud Upsampling: challenge and solution (Wuhan University) 2021.03
- Deep learning in point cloud recognition (Shenlan Xueyuan) 2020.04

Reviews:

- TPAMI, ICCV 2021, CVPR 2021, ECCV 2020, CVPR 2020, etc.

Research Habits:

- Making a survey, taking note using slides, and then digging smart ideas for my own topics. Already accumulated around 50 slides, including various 2D/3D topics
- Maintaining a reading list on GitHub (Stars : 34)