Huan LEI

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Visa & OSHC expiry date: 30-April-2022 (Subclass 500 student visa), 10-May-2022

RESEARCH INTERESTS

My research interests focus on 3D vision and geometric deep learning. Currently, I am designing efficient algorithms that are able to process large-scale point clouds, meshes and graphs. I am also interested in adversarial machine learning, self-supervised learning, relational networks and medical image processing.

EDUCATION

The University of Western Australia   Perth, WA
PhD in Computer Science and Software Engineering   Aug 2017 – Present
Supervisors: Prof. Ajmal Mian (80%), Dr. Naveed Akhtar (20%).

PUBLICATIONS

[1] **Huan LEI**, Naveed Akhtar, Ajmal Mian. Picasso: A CUDA-based Library for Deep Learning over 3D Meshes, **CVPR**, 2021. [paper], [code].

[2] **Huan LEI**, Naveed Akhtar, Ajmal Mian. SegGCN: Efficient 3D Point Cloud Segmentation with Fuzzy Spherical Kernel, **CVPR**, 2020. [paper], [code].

[3] **Huan LEI**, Naveed Akhtar, Ajmal Mian. Spherical Kernel for Efficient Graph Convolution on 3D Point Clouds, **TPAMI**, March 2020. [paper], [code].

[4] **Huan LEI**, Naveed Akhtar, Ajmal Mian. Octree guided CNN with Spherical Kernels for 3D Point Clouds, **CVPR**, 2019. [paper], [code].

[5] **Huan LEI**, Guang Jiang, Long Quan. Fast Descriptors and Correspondence Propagation for Robust Global Point Cloud Registration, **TIP**, 2017. [paper], [code].

PREPRINTS

[1] **Huan LEI**, Naveed Akhtar, and Ajmal Mian. Spherical convolutional neural network for 3D point clouds. arXiv preprint arXiv:1805.07872, 2018.

TECHNICAL SKILLS

Programming: CUDA C, Python, C/C++, MATLAB (with mex)
Libraries: Extending Tensorflow and Pytorch for large-scale 3D and geometric deep learning, Open3D, Matconvnet, Opencv, PCL, Caffe, VLfeat.