

RUNSONG ZHU

(+86) 183-7315-0759 · zhurunsong@whu.edu.cn · WeChat: 18373150759

EDUCATION

Wuhan University

09/2019 - Present

M. Eng. in Information Engineering in Surveying

GPA: 3.32/4.0

Central South University

09/2015 - 06/2019

B. Sc. in Geographic Information Science (GIS)

GPA: 3.48/4.0

RESEARCH PROJECTS

I am interested in 3D Vision, Point Cloud Processing, Computer Graphics and Deep Learning.

Human Face reconstruction from a few Multi-View Images (on-going)

- Project Description: Given a few multi-view images, obtain the accurate potential 3D geometry.
- The challenge for this project is that the reconstructed surface will be very coarse when the image number is low.
- In this project, we proposed a progressive method optimizing the SDF model from the coarse-refine structure, which not only accelerates the training speed but also improves the final reconstruction quality.

Robust normal estimation for point cloud

- Project Description: Given a point set, output the point-wise normal estimation result represented by (n_x, n_y, n_z)
- The challenge for the task is that the given point set always contains noise points, outliers and uneven density.
- By analyzing the existing methods and designing several modules to overcome the problem, the proposed method can achieve state-of-the-art performance on the PCPNet dataset and real-world datasets.
- This work was accepted by **ICCV 2021 (first author, oral)** (Rethinking Learning-based Normal Estimation on Point Clouds).

Heat leakage detection by fusion of point cloud and infrared image

- Project Description: Combining the point cloud and infrared image data to obtain the 3D data with heat information, analyzing the heat info around windows to detect the heat leakage.
- Applying harris_2d, harris_3d operator to find the corner points in image and point cloud and using RANSAC to register the point cloud and image.
- Using the 2D detection, 3D pre-process to get the position of windows in 3D, and analyzing the differences between the temperature of windows and temperature of the wall to detect the heat leakage.

AWARDS

- 2020 Lidar Congress - Point Cloud Segmentation Track (**First Prize**)
- 2019 Unique hackday (**Best Technology Award**)
- 2019 National GIS Development Competition (**First Prize**)
- 2018 Mathematical Contest In Modeling (**Meritorious Winner**)

INTERNSHIP

Tencent AI-Lab

06/2021 - Now

Mainly focus on the surface reconstruction from multi-view image, supervised by Dr. Xuefei Zhe and Dr. Linchao Bao

DiDi

06/2020 - 09/2020

Mainly focus on the real-time bus trajectory data processing and data mining

Chuangxin Deecamp

06/2019 - 07/2019

Mainly focus on the financial forecasting especially stock market forecasting

Baidu Map

06/2018 - 10/2018

Mainly focus on the development of android test platform.

PROFESSIONAL SKILLS

languages: Python, Java, Matlab, C/C++

Toolkits: Pytorch, OpenGL