# 三维点云算法

Date: 2020.07.03

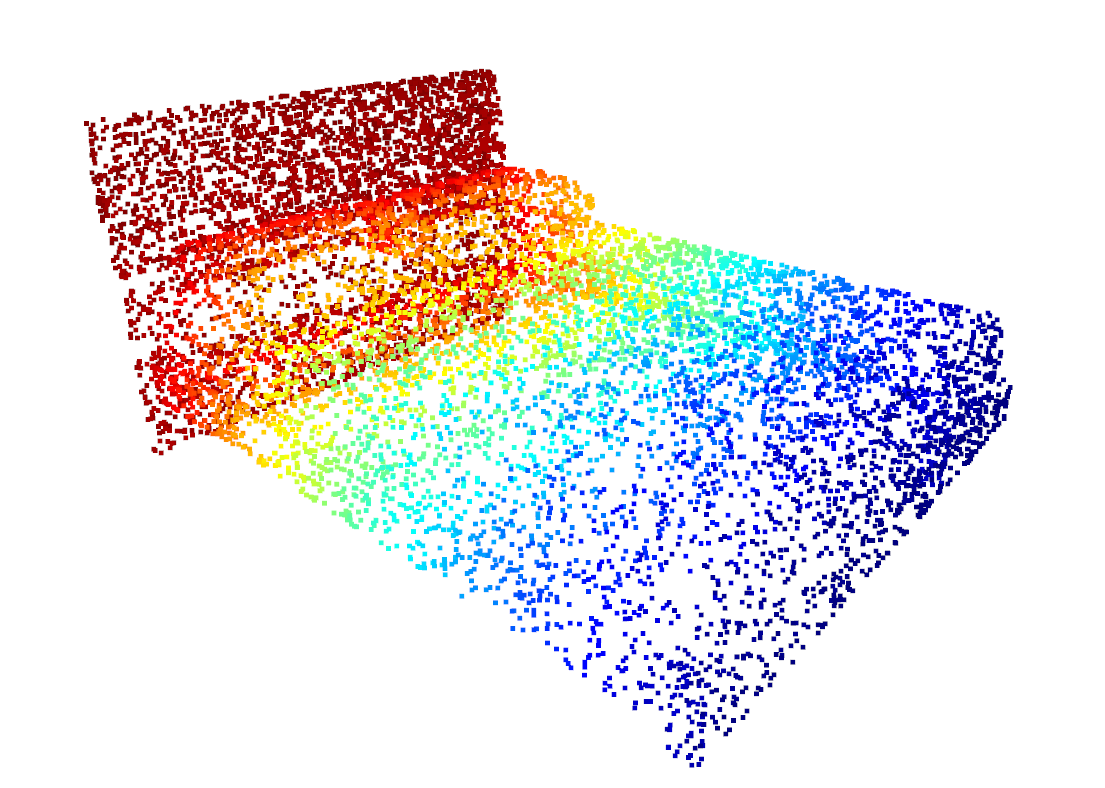
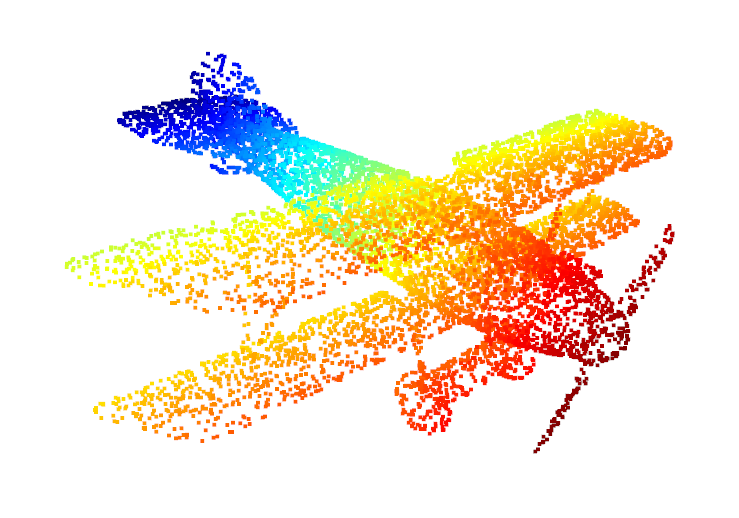
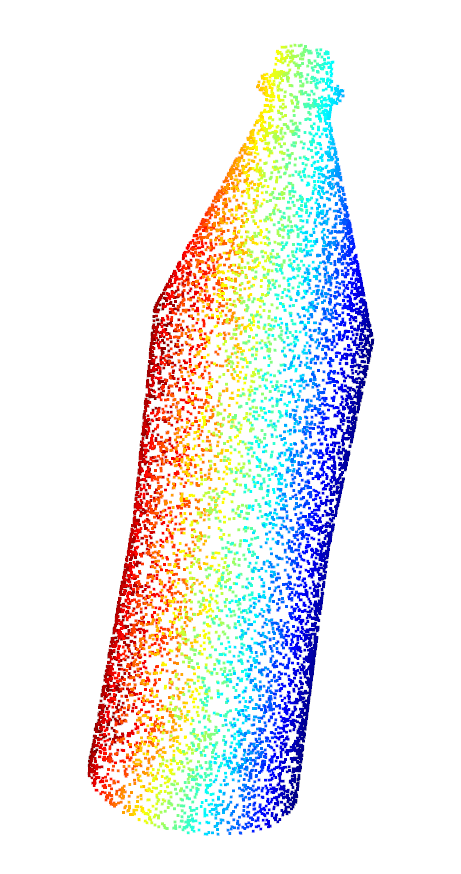
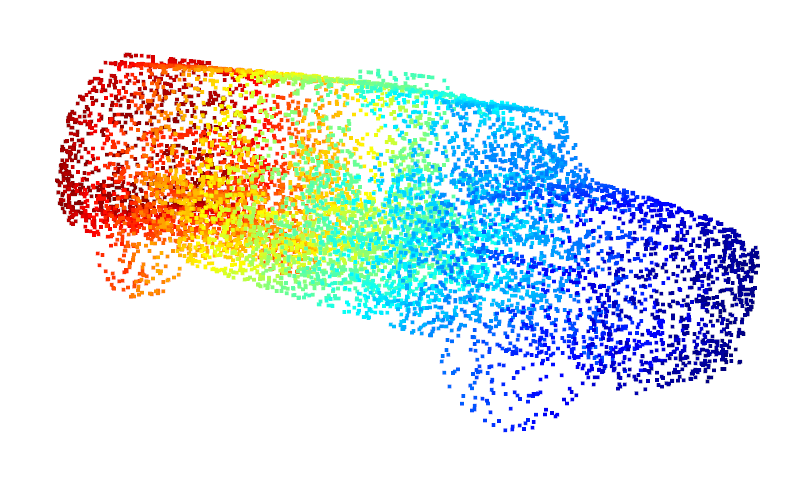
Author: MagicTZ

Homework: 01

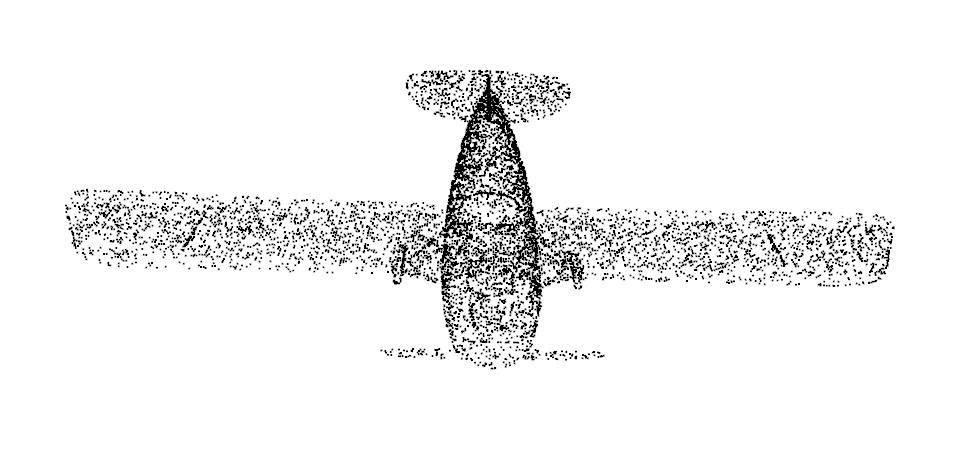
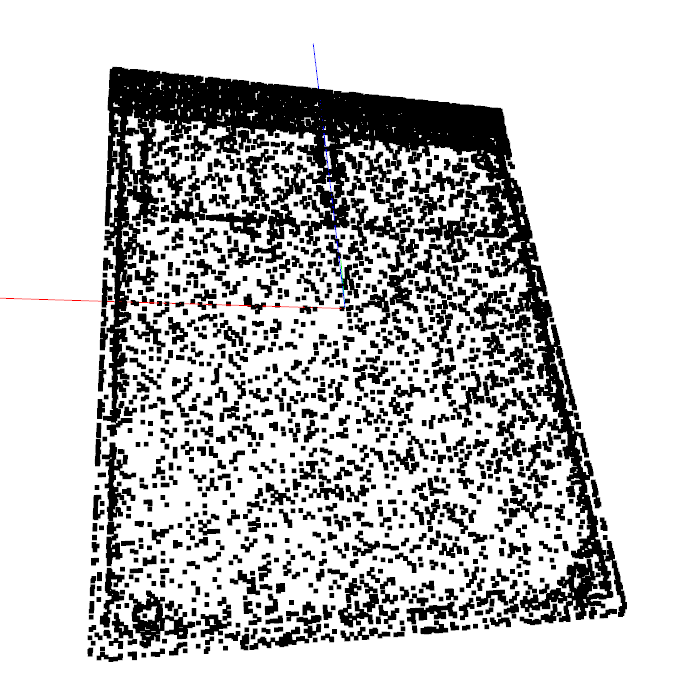
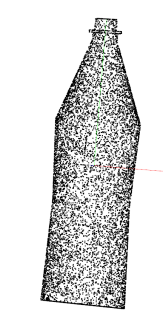
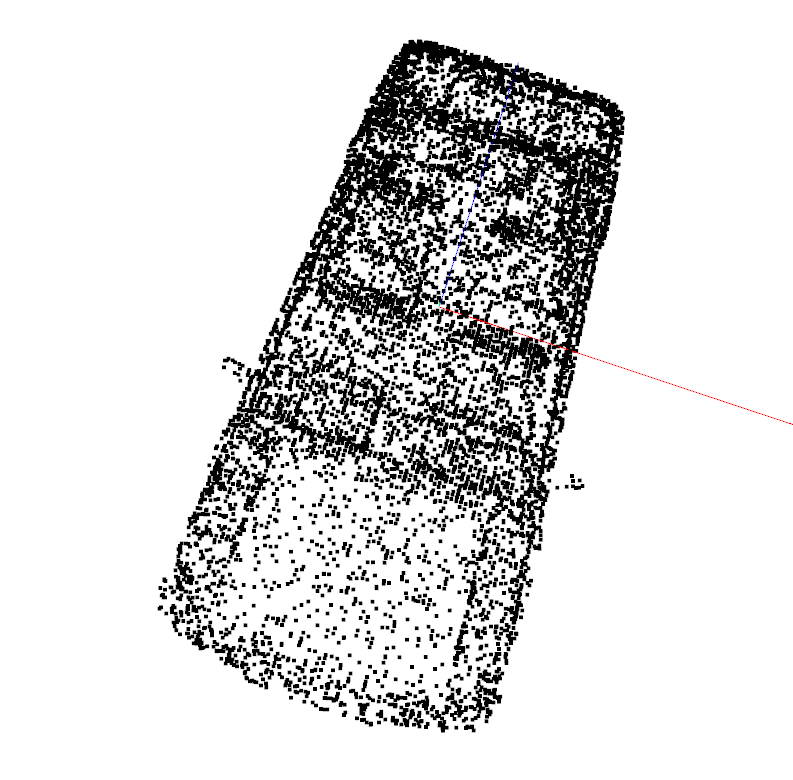
Description: The implementation of PCA, surface normal estimation and downsampling

## 1 PCL Visualization

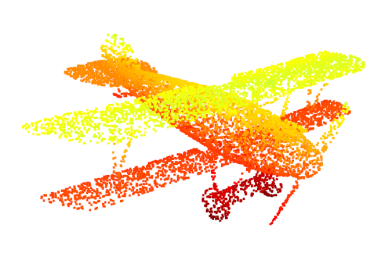
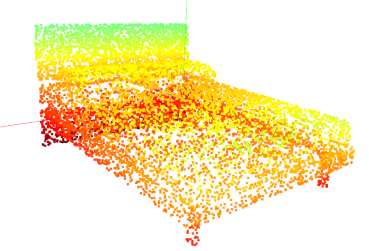
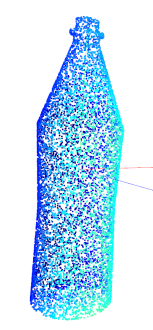
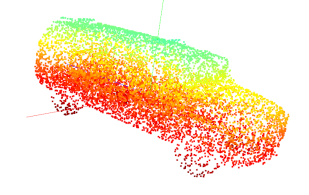
### 1.1 Origin

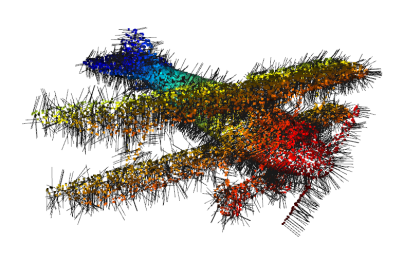
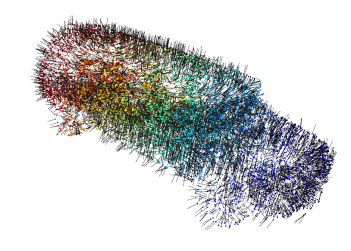
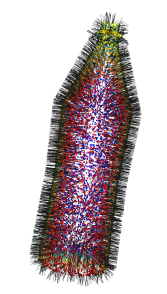
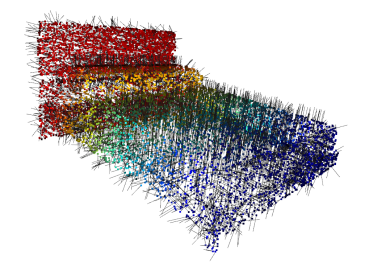
### 1.2 The first and second principle (Only a plane)

### 1.3 The result of decoder

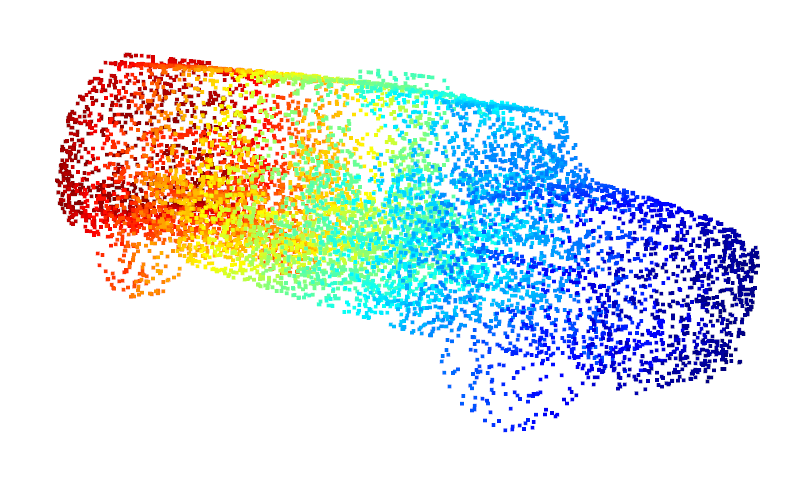
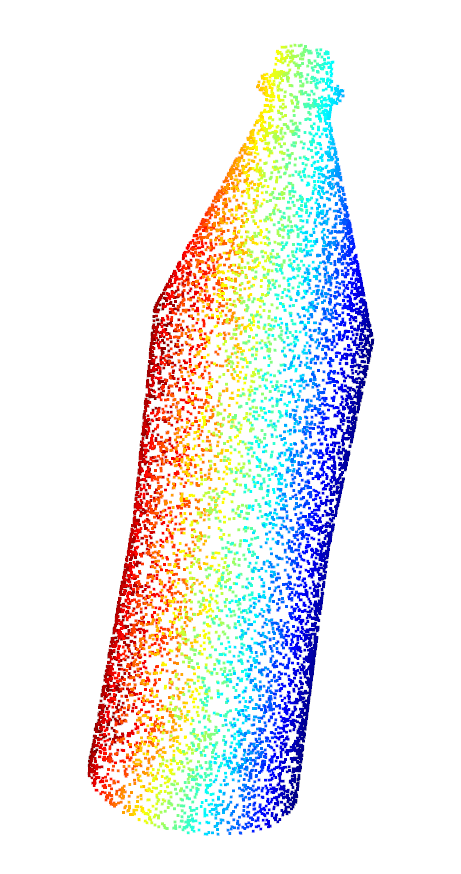
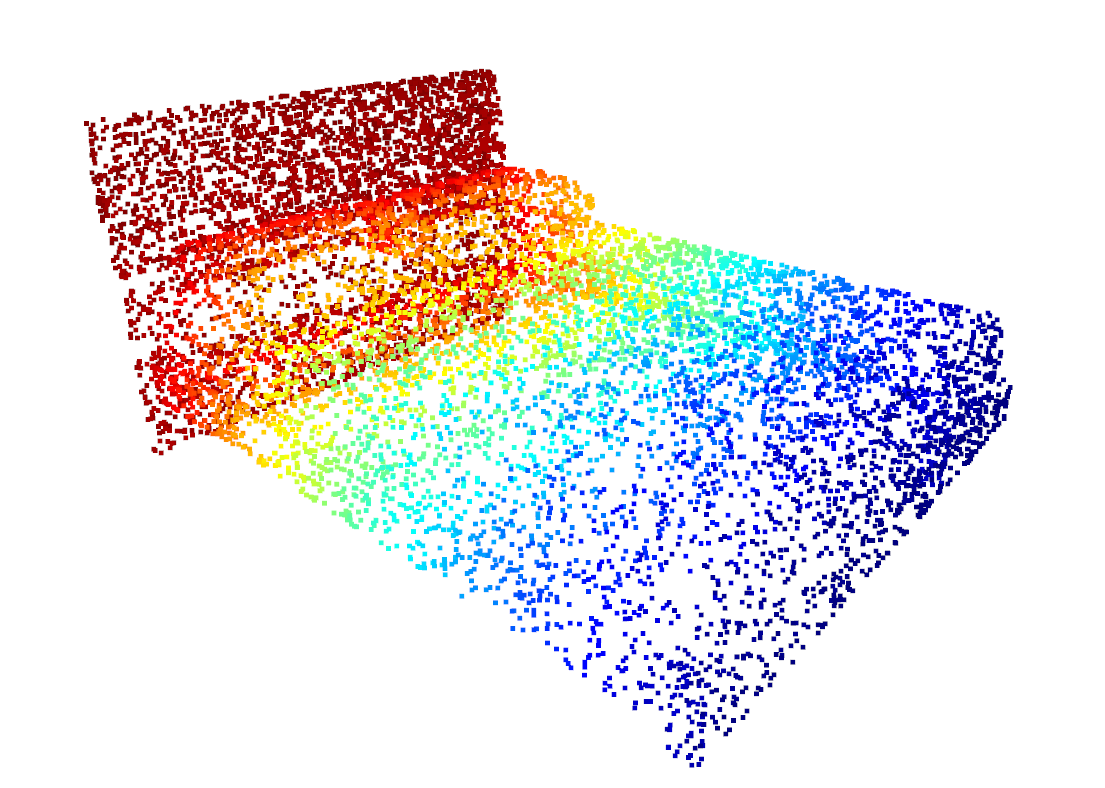
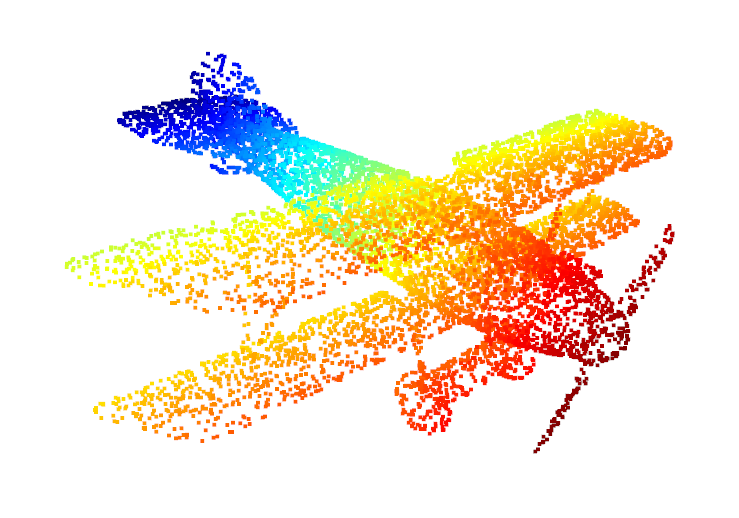
   

## 2 Surface Normal Estimation

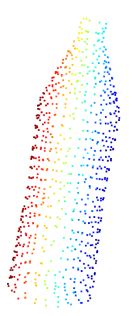
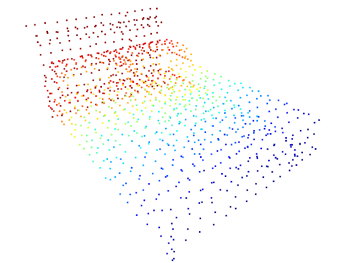
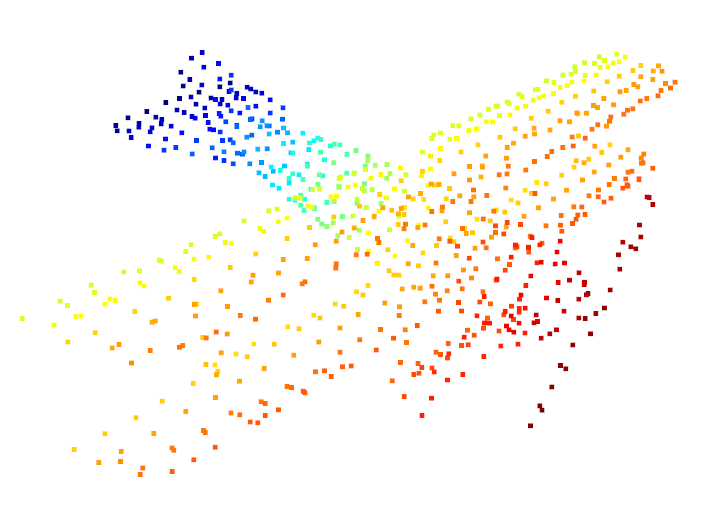
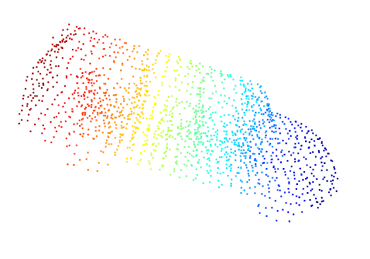
 

## 3 Downsampling

### 3.1 Origin



### 3.2 Centroid

### 3.3 Random

