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Work title: Research and Design of Segmentation Algorithm for Power Line Inspection

Annotation:
The goal is to quickly and accurately segment various parts of the power inspection point cloud. Using a statistical histogram based method to quickly segment the power corridor and ground parts can reduce most of the computational complexity. Accurately extract the cable section using PCA based region growth algorithm. The minimum bounding box algorithm was also used to obtain the overall shape of the power tower, and the sampling consistency algorithm was combined to fit its boundaries to obtain the complete tower structure. Through the above algorithm, the segmentation of cables, towers, and ground in the power inspection point cloud was completed and implemented in software.