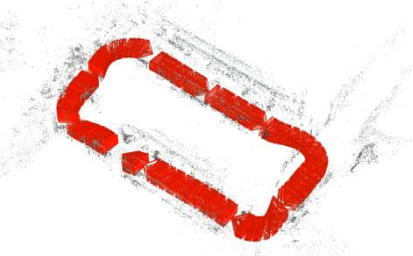图像信息

GNSS全局信息

建图预处理

语义分割

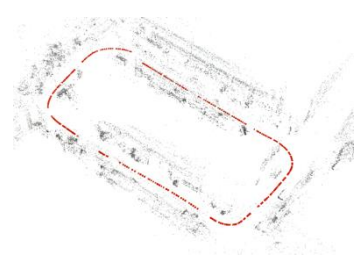关键帧筛选

无尺度建图

$$E_i = \sum_j \rho(\|\hat{x}_j - \pi(T_w^{k_i}, p_m^w)\|_2^2)$$

$$\pi(T_w^{k_i}, p_m^w) = [K \cdot (R_w^{k_i} \cdot p_m^w + t_w^{k_i})/d_j]_{0:2}$$
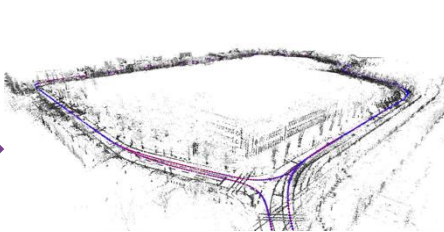
建图对齐

$$l_{k_i}^g = s \cdot R_w^g \cdot t_{k_i}^w + t_w^g$$

$$s^*, R_w^{g\,*}, t_w^{g\,*} = \arg\min_{s, R_w^g, t_w^g} \sum_i^{N_l} \|l_{k_i}^g - s \cdot R_w^g \cdot t_{k_i}^w - t_w^g\|_2^2$$

建图融合

$$E_i = \sum_j \rho(\|x_j - \pi(T_g^{k_i}, p_m^g)\|_2^2) + \alpha \cdot \rho(\| - R_g^{k_i\,T} \cdot t_g^{k_i} - l_{k_i}^g\|_2^2)$$