

Preparation

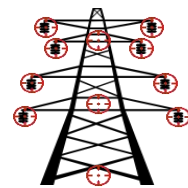


Raw Point Cloud Data

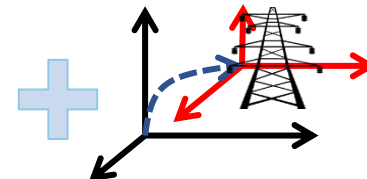


Historical Inspection Record

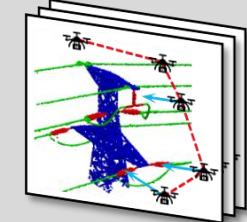
Section 4.1 Expertise-Driven Task Modeling



Inspection Target
Identification



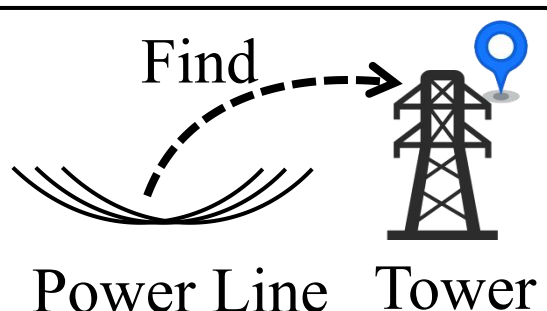
Coordinate
Normalization



Knowledge
Base

Section 4.2 Geometry-Centric Plan Generation

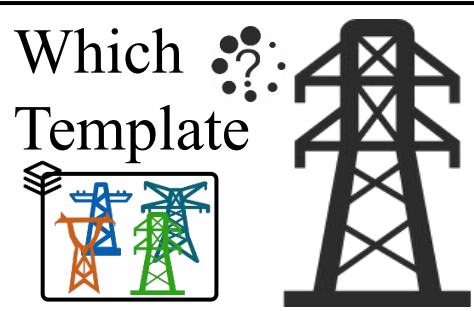
Find



Power Line Tower

Heuristic Line
Modeling

Which
Template



Template
Matching

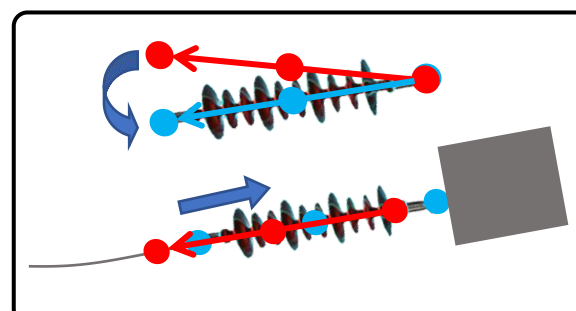
Trajectory



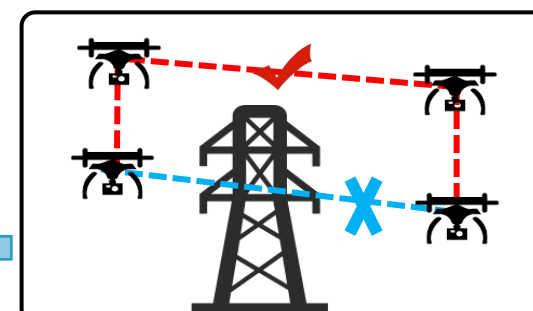
Target

Initial Plan

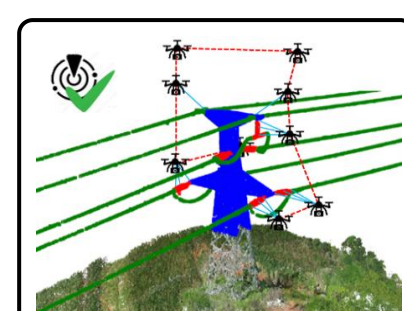
Section 4.3 Deployment-Adaptive Trajectory Optimization



Optimization Target
Points



Optimization
Safety



Inspection
Trajectory