Summary: Point matching methods for Repetitive Structure in Visual SLAM application

Abstract

Keywords:

1. Introduction: Point matching in Visual SLAM

Data Association and Point Matching in Semantic SLAM. Semantically-labeled landmarks address two critical issues of geometric SLAM: data association (matching sensor observations to map landmarks) and loop closure (recognizing previously-visited locations).

Point level. Semantic points = Descriptor In theory: Data Association and Optimization In practical: There are three scale level for point matching

- Image level (low)
- Local map level (mid)
- Global map level (high - for loop closing)

Point matching cases:

- Odometry: image level
- Local bundle adjustment (Local BA).
- Relocalization case: Kid-napped robot

Challenge in UAV inspection. Repetitive structures ... Weak GPS signals ... Solution:

(i) More addition sensors - more constraints
(ii) Sophisticating data association method

Outlines. In this paper, we ...

2. Problems solving

2.1. Approaches

- Features descriptor
- ...
- ...
- ...

2.2. Experiment

References