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Visual SLAM with Semantic-based Filtering of Dynamic Objects

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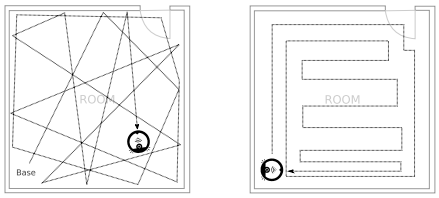
Motivation

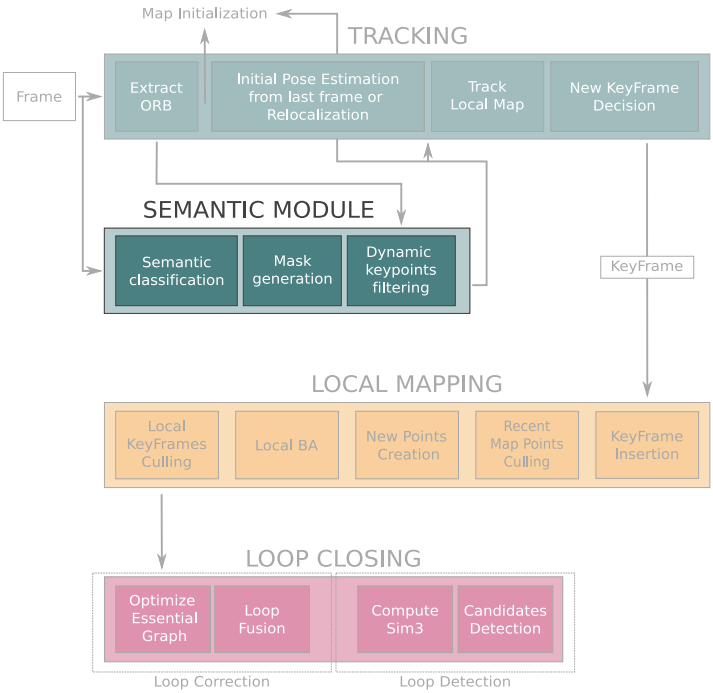
- SLAM: Simultaneous Localization And Mapping



- V-SLAM: uses only a camera as sensor
- Moving objects are bad for estimation

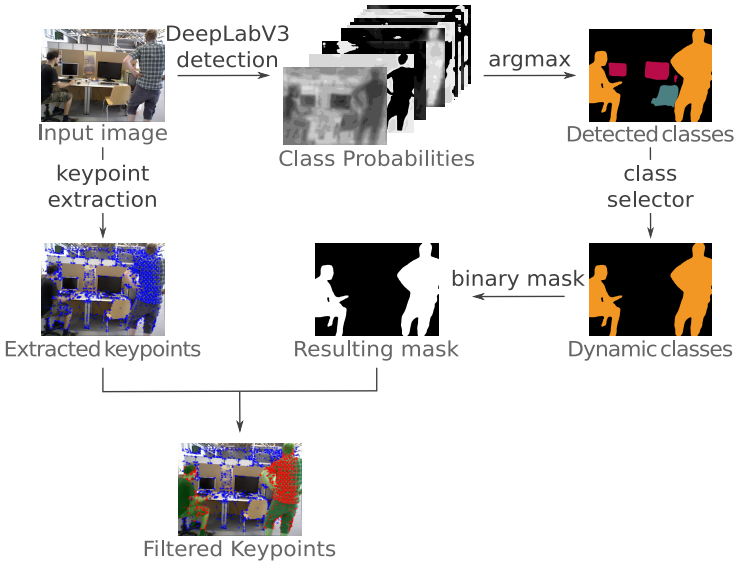
Objective

- Add a semantic module into ORB-SLAM2 to filter keypoints from dynamic objects

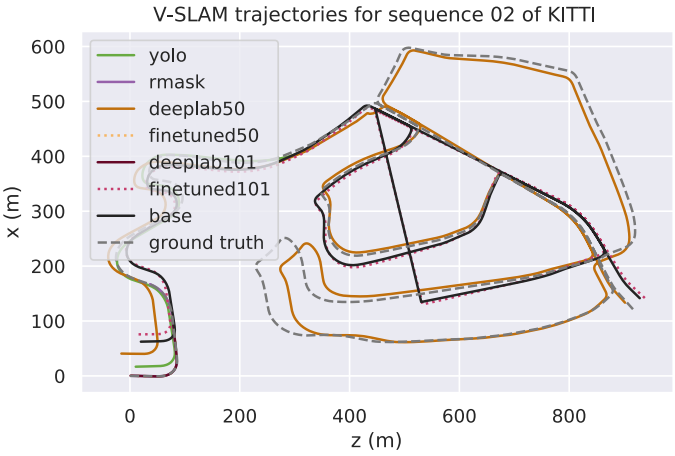


Methodology

- Six different approaches



Results



- Scenes with large amounts of dynamic objects resulted in a more complete trajectory
- More sequences with dynamic objects are needed to evaluate the system
- Static objects classified as dynamic negatively impact the estimation (e.g. parked car)

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