CS 547: Sensing and Planning in Robotics

Lecture 7: Analysis of 'Markov Localization for Mobile Robots in Dynamic Environments' by Fox et. al.

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Summary

- Markov Localization
- Action Model
- Perception Model
- Entropy Filtering
- Distance Filtering
- Representing the State Space
- Results

<u>What is new/different ?</u>

- Perception model
- Filters
- Selective update of state space

Results Summary

- Localization is more accurate with filters
- Plain Markov localization and ML with distance filters is good for recovery from extreme failure
- The distance filter is particularly useful with incomplete maps
- The techniques are useful in real time with realistic error (provided some careful pre-computation is done).