UDACITY

Return to "Computer Vision Nanodegree" in the classroom

Landmark Detection & Tracking (SLAM)

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

Good work !!

For further reading :
SLAM Tutorial@ICRA 2016
http://www.dis.uniroma1.it/~labrococo/tutorial_icra_2016/
Simultaneous Localization and Mapping(SLAM) examples
https://pythonrobotics.readthedocs.io/en/latest/modules/slam.html
SLAM-Course
https://www.youtube.com/playlist?list=PLgnQpQtFTOGQrZ4O5QzbIHgl3b1JHimN_

`robot_class.py`: Implementation of `sense`

Implement the `sense` function to complete the robot class found in the `robot_class.py` file. This implementation should account for a given amount of `measurement_noise` and the `measurement_range` of the robot. This function should return a list of values that reflect the measured distance (dx, dy) between the robot's position and any landmarks it sees. One item in the returned list has the format: `[landmark_index, dx, dy]`.

Notebook 3: Implementation of `initialize_constraints`

Initialize the array `omega` and vector `xi` such that any unknown values are `0` the size of these should vary with the given `world_size`, `num_landmarks`, and time step, `N`, parameters.

Notebook 3: Implementation of `slam`

The values in the constraint matrices should be affected by sensor measurements *and* these updates should account for uncertainty in sensing.

The values in the constraint matrices should be affected by motion `(dx, dy)` *and* these updates should account for uncertainty in motion.

The values in `mu` will be the x, y positions of the robot over time and the estimated locations of landmarks in the world. `mu` is calculated with the constraint matrices `omega^(-1)*xi`.

Compare the `slam`-estimated and *true* final pose of the robot; answer why these values might be different.

You did not answer the question

The noise makes the result differ . More noise makes bigger difference

There are two provided test_data cases, test your implementation of slam on them and see if the result matches.

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