Context-Oriented Mini Project No.2 Simultaneous Localization and Measurement

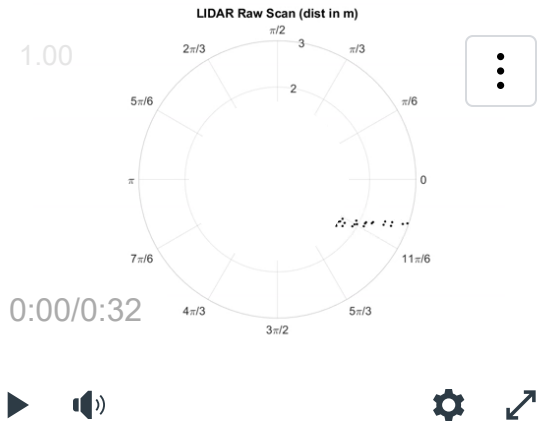
Published

This is a long COP, so I recommend starting early. Also please go to the recitation on ***Sunday 10/20, at 9:00 pm***.

Project PDF (V3.1) (https://canvas.mit.edu/courses/27515/files/4707108?wrap=1) (https://canvas.mit.edu/courses/27515/files/4707108/download?download_frd=1)

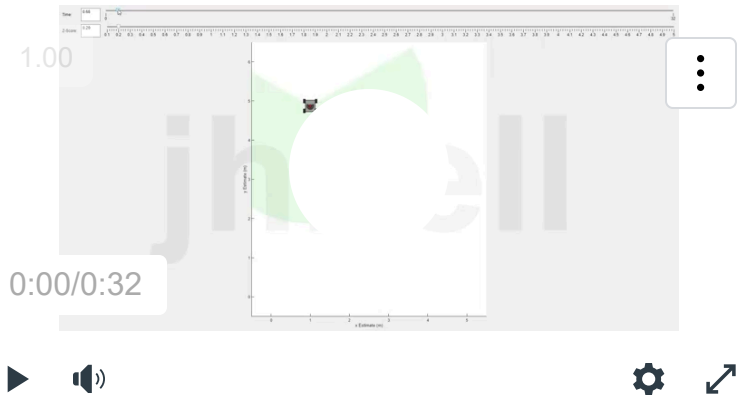
Data and Skeleton Code (V3.1) (https://canvas.mit.edu/courses/27515/files/4712693?wrap=1) (https://canvas.mit.edu/courses/27515/files/4712693/download?download_frd=1)

This project involves processing LIDAR data. Here is a video of the raw, unprocessed LIDAR scan, for your reference:

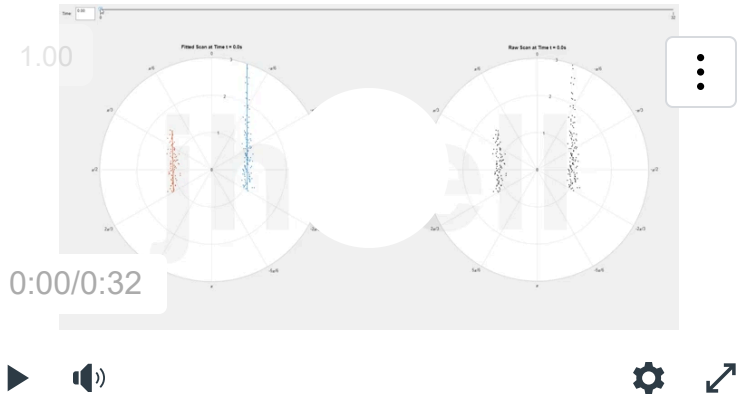


So that you can check your work, here are animations of acceptably correct algorithms for Parts b, h, and k:

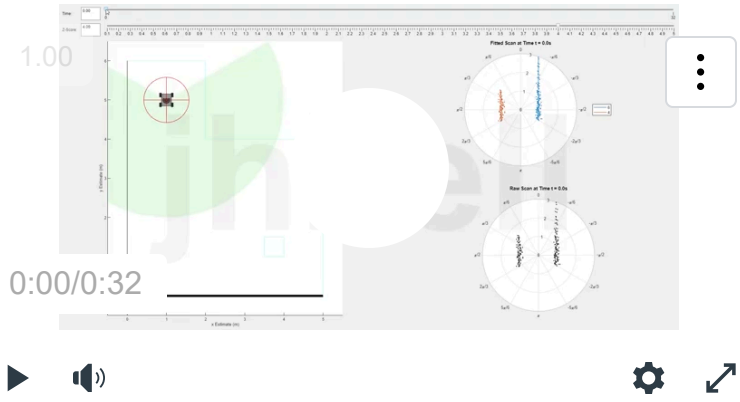
Part b



Part h



Part k



The animation videos are not the smoothest, since I manually moved the time bar and recorded my screen. I apologize for any confusion this might cause --- I think I briefly (accidentally) dragged time backwards for a split second in the Part k video?

You can produce these animations for yourself using the included interactive visualizer tools that I coded, and included in the skeleton codebase.

You can get better results than what I demonstrate here; this is simply an example of what is an acceptable result. If your simulations look vaguely similar, then they're probably correct.

-John

Points	100
Submitting	a file upload

Due	For	Available from	Until
Oct 30, 2024	Everyone	Oct 16, 2024 at 12am	-