Please see project pdf for links on data.

##
Data collected by Lasitha Weerakoon and Gurtajbir Singh Herr
##

Note that the numbering of the CSV file names are not consistent.
Also, the provided CSV files don't have headers.

The data is organized into columns as follows:

[Laser Range(1:1080), Final_goal_x, Final_goal_y, Final_goal_qk, Final_goal_qr, Local_goal_x, Local_goal_y, Local_goal_qk, Local_goal_qr, Robot_pos_x, Robot_pos_y, Robot_pos_qk, Robot_pos_qr, Cmd_vel_v, Cmd_vel_w]]

i.e.,
First 1080 columns represent the laser range data,
next 4 columns represent final goal information,
next 4 columns represent the local goal information,
next 4 columns represents robot's current position and pose information,
final 2 columns represent the commanded actions

For reference, a header is included in the "Data_illusted_CSV.csv" file.

##
A note on data generation

Two environments were considered,
1. A corridor scenario with moving obstacles
2. An open box/hall environment with moving obstacles

The data from these environments are in the corresponding folders.
The folder "special_CSV" contains high instances of some special maneuvers such as backing up.

##

A note on the robot and data types

1) Robot model:

We use a car-like robot model.

2) Laser range data:
The laser range data is a 1D array of 1080
values which is the range recorded at each 0.25deg within a

270deg field of view with the 540th element being the
range corresponding to directly in front of the robot.

3) Positional data:
The robot pose and the both goal information are
spatially represented as 3D cartesian coordinates (x; y; z) for
position and a quarternion (q = qr + qi*i + qj*j + qk*k) for
the orientation. Since the current work only considers the
horizontal plane, we have ignored the z-coordinate as well
as the qi and qj coordinates in the quarternion (we only have qr and qk).

4) Commanded actions:
The action commands are provided in the form of a translational velocity command (v) and a rotational velocity command (w).

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