

GitHub Link

https://github.com/jdc183/teleop_intercept_package.git

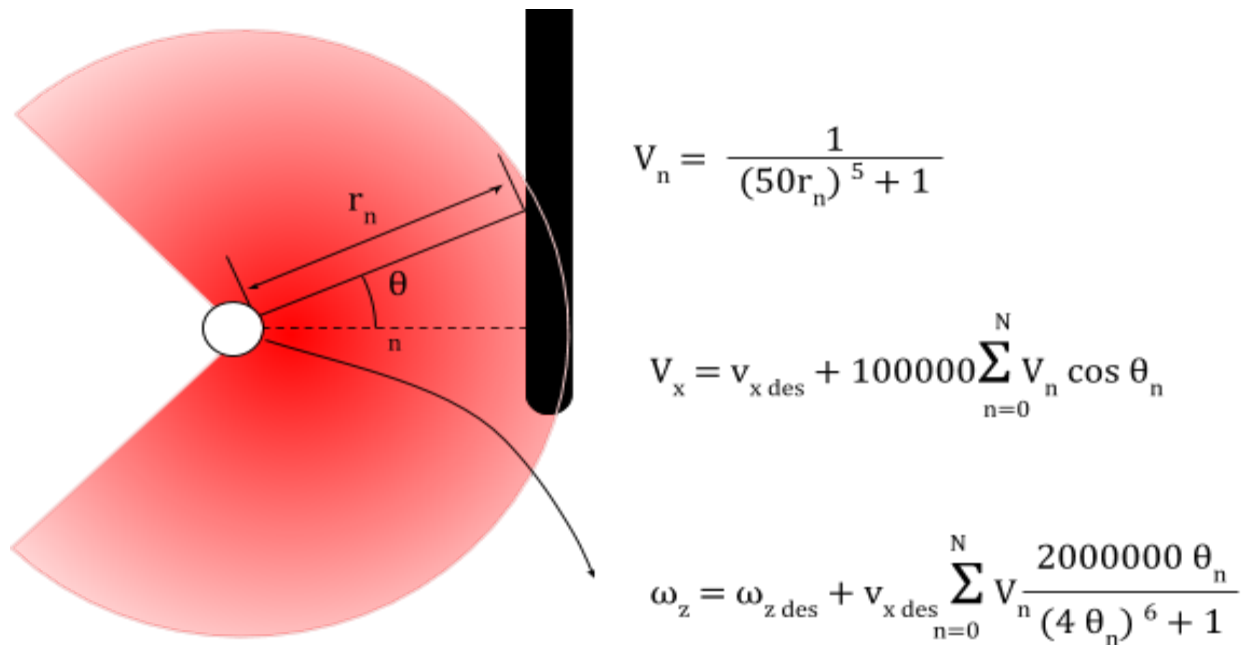
Writeup

The comments in my code will be more helpful than this, but here's a general explanation of my code:

First I check for command line arguments. If enough args are present, use them as the robot and steering topics respectively. Otherwise, use robot0 and des_vel, respectively.

I then create two subscribers, one for telemetry from the steering app and one for laser feedback, and one publisher, for final telemetry output.

Upon receipt of the laser information, in the laser subscriber callback, I map the laser values according to a 5th order polynomial to create a negative feedback in velocity when the robot is too close to an obstacle.



I use a similar map to make the robot steer away from the obstacles toward the nearest opening.

If these new velocities are too extreme, they are truncated to reasonable values.

The newly calculated velocities are placed in a Twist message, which is then sent to the robot/cmd_vel.