

CONTROL OF MOBILE ROBOTS //

HOMEWORK 03

TASK: LATERAL CONTROL FOR PATH TRACKING

Consider the **same control strategy you developed in homework 2** for reference path tracking. In this homework, you will develop two feedback controllers: **Pure pursuit (or pure tracking) and Stanley controller**.

- Formulate pure pursuit (or pure tracking) and Stanley controller using Ackermann steering model (or you may use diff drive robot with necessary assumptions)
- Define **a metric** to estimate the **reference path tracking error**
- Change the maximum allowed velocity from 0.3 m/s to 5 m/s while keeping the same maximum angular speed for all the cases and **estimate reference path tracking error** based on **your error estimation metric** for **both feedback controllers**.
- Plot both the reference path and the traversed path of the robot
- Your submission should include **the report** and the **source code**