Racecar Agent Development Log

1.Agent Overview

Developed the MyAgent.py to drive the racecar using LIDAR inputs and velocity. The agent selects actions based on heuristics for motion control.

2.Logic Explanation

Direction:

- Comparing left vs right values
- Turning toward whitespace
- Else, go straight

Motion:

- If front distance < 0.15, brake.
- If velocity is low, then accelerate
- Else coast

3.Results

- Track 1 accuracy: 117.96
- Track 2 accuracy: 118.08
- Track 3 accuracy : 118.31
- Track 4 accuracy :118.15
- Track 5 accuracy: 120.1
- Track 6 accuracy: 119.9
- Track 7 accuracy:117.90
- Track 8 accuracy : 118.23

Racecar is stable on most tracks without crashing.

4. Further Improvements

- May be using Q-learning for edged curves and higher accuracy

5.Files

- MyAgent.py – Rule-based agent
- Deevelopment.pdf – Log of testing.