

Development Log

Development log 1

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Project Goal

To build an agent (MyAgent.py) that navigates racetracks efficiently using a rule-based approach. The goal is to avoid crashes, especially in tight curves, while maintaining as high a speed as possible.

Agent Design Overview

The agent relies on 5 LIDAR sensor readings:

left, mid_left, center, mid_right, right

These represent distances to walls around the car. Based on these values and the car's velocity, the agent selects from directional and speed-based actions.

Final Summary:

Total Iterations: 575

Total Reward: 125.53

Average Speed: 0.213

Max Speed: 0.550

Time taken: 2 min 30 sec

Development log 2

Agent Design Overview:

The initial agent was stable but very slow, taking over 2 minutes to complete the track.
To improve speed, velocity thresholds were increased and center LIDAR handling was optimized.
Acceleration was favored in open paths, and side balance logic was made more responsive.
Wall detection thresholds were adjusted to reduce overcorrection near tight curves.
The final agent completes the track in ~1 minute 6 seconds with higher reward and no crashes.

Final Performance:

- **Track Completion Time:** ~1 minute 6 seconds
- **Average Speed:** 0.213
- **Maximum Speed:** 0.550
- **Total Reward:** 125.53
- **Time taken:** 1 min 6 sec