

Report 13 to 21

I am writing this report to provide an update on the recent sessions and the progress made in developing the artificial intelligence system for our vehicle. Unfortunately, I encountered a persistent problem during these sessions, which has resulted in the absence of session reports on this subject. However, I am pleased to inform you that I have now resolved the issue.

During the sessions, my code was functioning correctly, and my shell successfully connected to the simulator. However, despite these positive indications, the car remained stationary. Each session, I sought assistance from the professors in an attempt to resolve this difficulty, but my efforts were in vain.

Feeling on the verge of giving up, I decided to share my problem with a friend who is an engineer and an expert in artificial intelligence during the last session. After thoroughly examining my code and confirming its correctness, he identified the simulator as the root cause of the issue. The simulator was not transmitting the car's data to the shell, thereby preventing its control. Following his advice, I downloaded a specific version of the simulator, which ultimately resolved the problem.

I was delighted to discover that my AI system was finally functioning as intended. However, due to the delay caused by the technical difficulties, I could not test it on our vehicle and synchronize it with the existing sensors installed by my colleague, Anas DERKAOU. I am fully aware that there is still work to be done in terms of connecting the AI to the sensors and achieving harmonization. Nonetheless, a significant portion of the task has been accomplished. Developing a neural network without a solid foundation in AI and learning everything independently presented its challenges, but they were not insurmountable.

To observe the simulation of the car's behavior, I have provided the following links:

Link to observe the car's behavior at 50 km/h:



50.mp4

Link to observe the car's behavior at 10 km/h:



10.mp4

It is important to note that this type of AI is typically accompanied by complex mathematical codes designed for real vehicles, such as Teslas. The neural network I have developed will not be able to guide the car at high speeds. Rather, its purpose is to assist the mathematical code in critical situations.

Initially, I tested the code at a speed of 50 km/h (31 mph). However, the car quickly deviated from the desired path due to the code's inability to keep up with the vehicle's speed. However, when I reduced the speed to 10 km/h (6 mph), the car exhibited satisfactory behavior on the road.

In conclusion, I have successfully resolved the technical problem that hindered the progress of the sessions. Despite the delay, I am pleased with the current functionality of the AI system. Further work is required to integrate the AI with the existing sensors and achieve synchronization. I will continue to diligently work on this aspect to ensure a seamless integration.