Report No 2 

Team RoboBadgers

Date 19/1/2025

**1. Introduction**

For this status report, we are presenting how much progress we made in the last month regarding the project.

**2. Planned activities**

**In the beginning, we decided to approach the following activities:**

* lane recognition
* follow the lane at a constant speed
* traffic sign recognition

**3. Status of planned activities**

**Lane recognition: 80% completed**

*Calin and Cezar* developed the lane recognition algorithm and are currently working on improving it.

**Traffic signs recognition: 100% completed**

Sebi and Calin finished the training and 3D printing of the signs. We printed 3 of each sign.

**Recognition**: 100% completed.

We found a dataset of 6000 images of European signs. We used different augmentation techniques and also added different backgrounds. We trained a YoloV8 model.

This gave us a 100% accuracy on a test dataset.

**4. General status of the project**

At the moment, the car can be controlled from a computer, where we can also see a live stream from the camera(on the dashboard).

We understand how to send commands to the priority queues from the subscription system and how to retrieve all sensor and car status data.

The car can recognize all signs from the competition website, and can follow the lane. The lane algorithm has some improving to be done. We will have a global shutter OV9821 camera strictly for lane detection

**5. Upcoming activities**

We expect to finish lane detection & traffic sign recognition modules by the next status.

We will buy the AI hat and connect the OV9281 camera.

After sorting everything out, we will start testing on the physical track that is in our faculty.