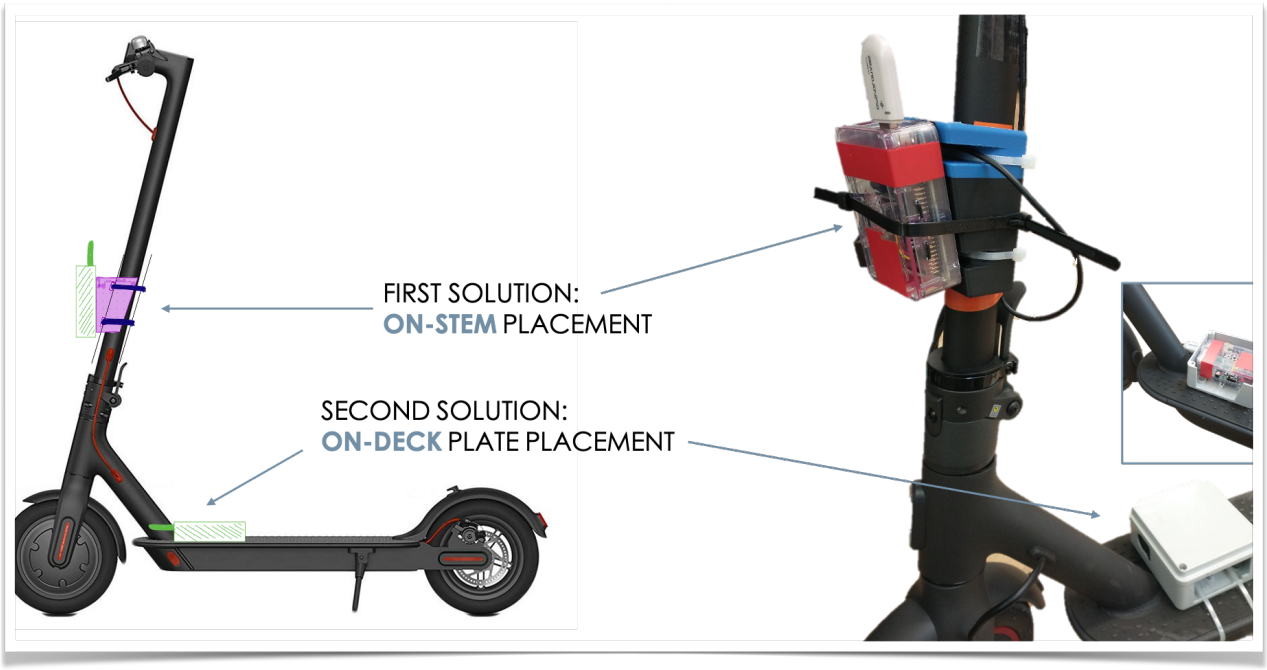


Experimental Setup

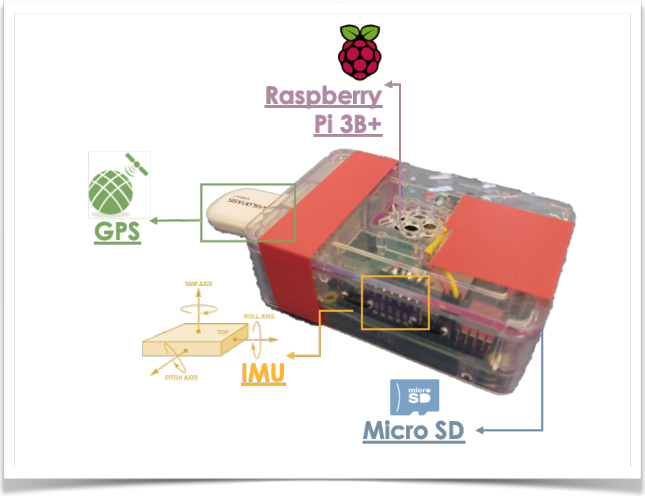
The dataset provided contains the recordings collected during a test campaign performed using an eScooter, specifically a **Mi2Pro**.

It contains **19 tests** performed by a **single driver**, leveraging a pool of drivers weighing between **35 and 115kg**.
3 tests were carried out with **two passengers** on board. The combinations were chosen so that the sum of their weight was comparable to that of a single driver.

The **degree of user confidence** is also provided. In detail:

- 1: first-time users (who performed an unregistered ride before the actual test to familiarise with the vehicle);
- 2: users who have already used an eScooter a few times before;
- 3: users who are used to ride an eScooter.

All the **recordings** were **monitored simultaneously** by the stem and deck boxes. However, **the two boxes are independent**, so they are not switched on at the same time. The two timestamps are therefore not synchronous. **If** the two boxes' signals are to be used in combination, or if they are to be **compared, they must be aligned first**.
NB: For one recording, that of Luca Franceschetti, deck GPS is not available.



Unipol SensorBox

The box contains a **6-axes Inertial Measurement Unit** (IMU).
This means that included in the unit are:

- A **tri-axial accelerometer**, which provides acceleration along the x, y, z axes [m/s^2].
- A **tri-axial gyroscope**, providing angular acceleration, hence roll, pitch, and yaw rates [deg/s].

The signals provided are **already calibrated**, so their **reference** system corresponds to the one reported in the **top-page figure**, i.e. a right-handed triad with x oriented as the forward eScooter motion and z upwards.

An **anti-aliasing low-pass filter was also applied** at a cut-off frequency of **20Hz**.

The sampling frequency of the signals acquired by the IMU is **104Hz**.

Besides, there is a **GPS** detector, that samples l**atitude, longitude, and speed**.

The GPS values are sampled at **1Hz**.
In the shared dataset, the GPS signals were **interpolated** to bring their resolution to that of the IMU.