# Received Data:

* **Line Sensor [15]:** 0 or 1
* **IMU Angles [3]:** yaw, roll, pitch [0, 360] degree
* **IMU Acceleration [3]:** X, Y, Z [0, inf]
* **Motor PWM [2]:** PWM value for each motor [0,255]

## Text Fields

* COM Port
* Send Message

## Buttons Functionalities

* **Connect:** Read from *COM Port* text field and connect to ESP32 (shown in logs field).
* **Send**: reads from *send* text field, sends the message to the ESP32 (shown the message in logs field).
* **Reset:** sends a command to the ESP32 to reset (print reset esp32).
* **Stop:** sends a command to the ESP32 to stop the motors.
* **Start:** sends a command to the ESP32 to start the robot.
* **Save Logs:**  saves logs to a CSV file.
* **Reset Logs:** reset the Pandas Data Frame.

## CSV Files

All CSV data logging should be performed in real time, unless pressed

* **Logs File:** saves logs to a csv file, three columns:
  + DateTime
  + log type (connect, send, reset)
  + sender (ESP32 or user)
  + the log itself (the full message)
  + success (true or false)
* **Sensors File:** saves data from the sensors with the full DateTime
  + DateTime
  + Sensor columns:
    - [0 to 15] for line
    - 3 for angles
    - 3 for acceleration.