

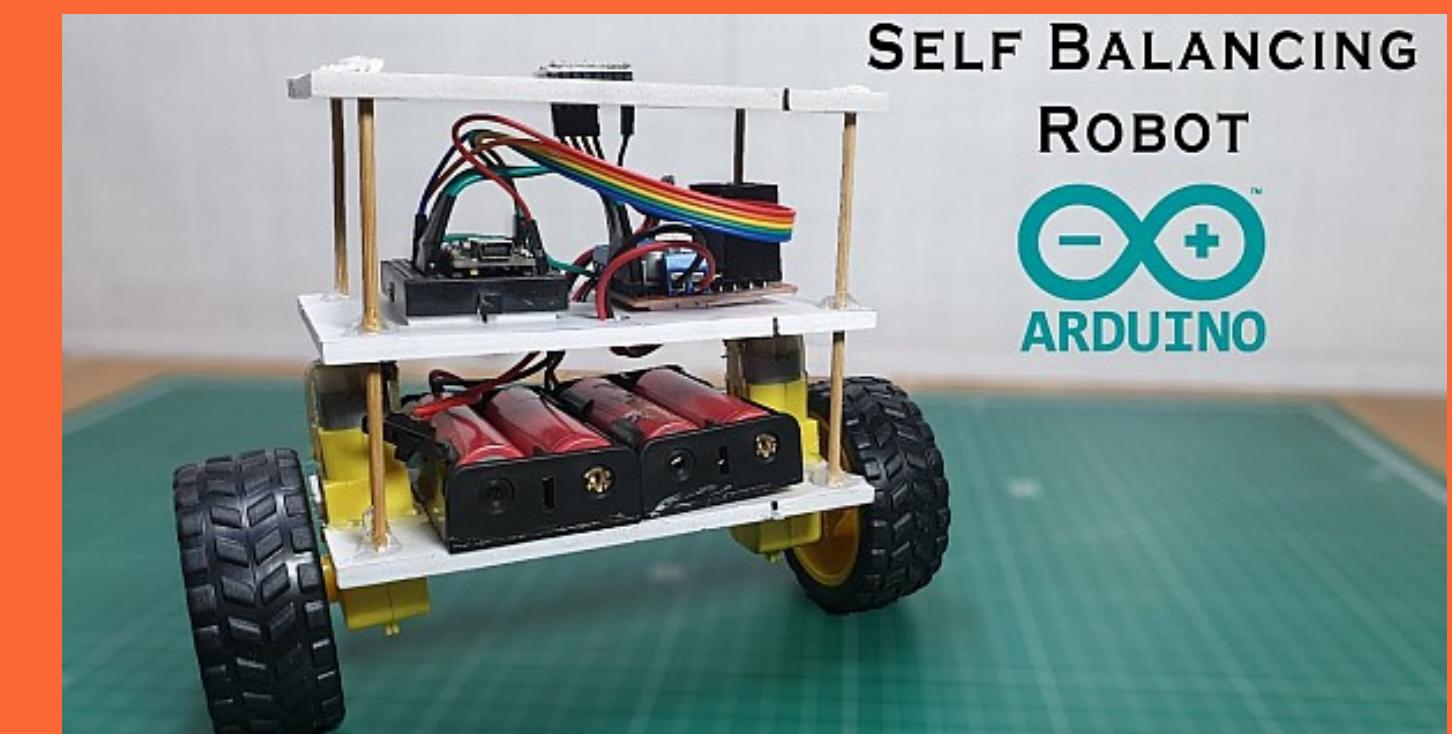
**GRUP 15**

**2025**

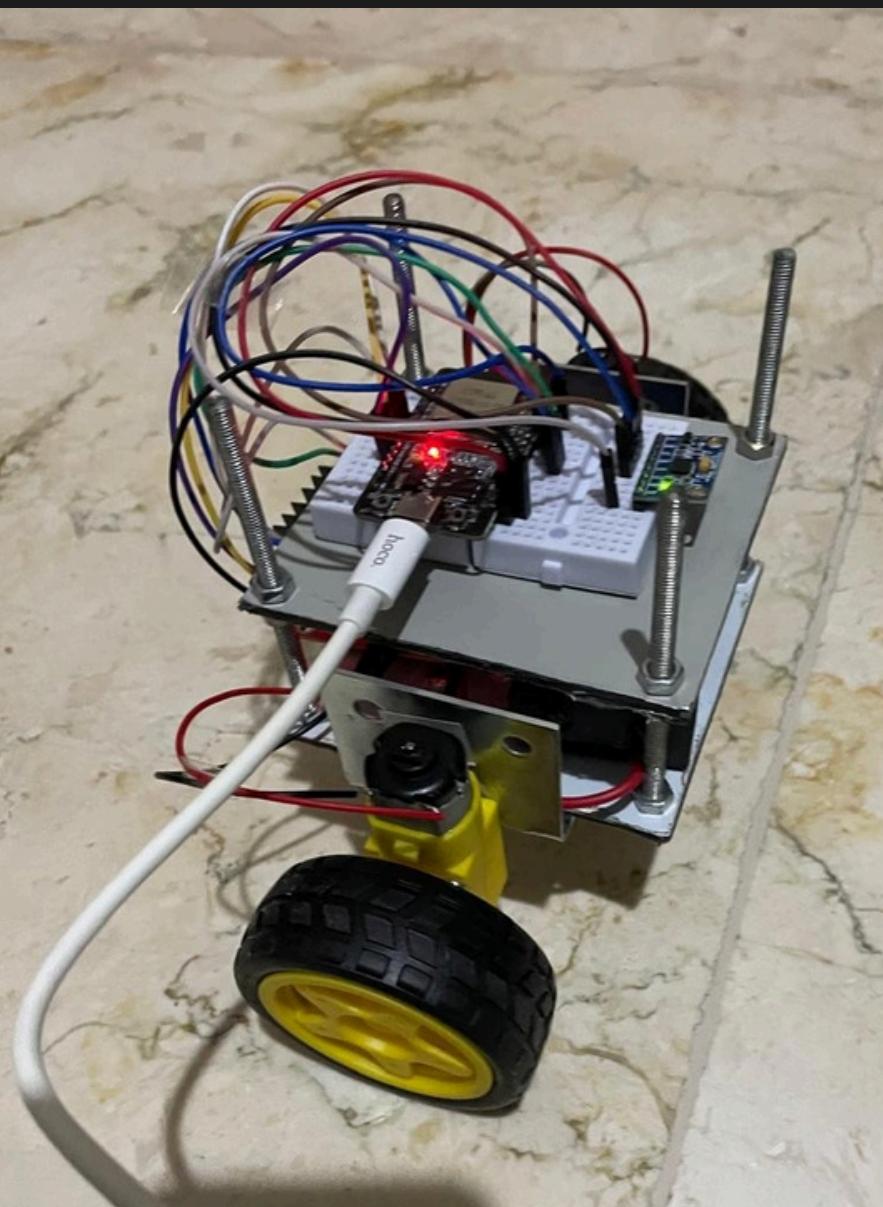
# **SAR-PAM PPT FINPRO IOT**

**SELF BALANCING ROBOT WITH PATH  
MEMORIZATION**

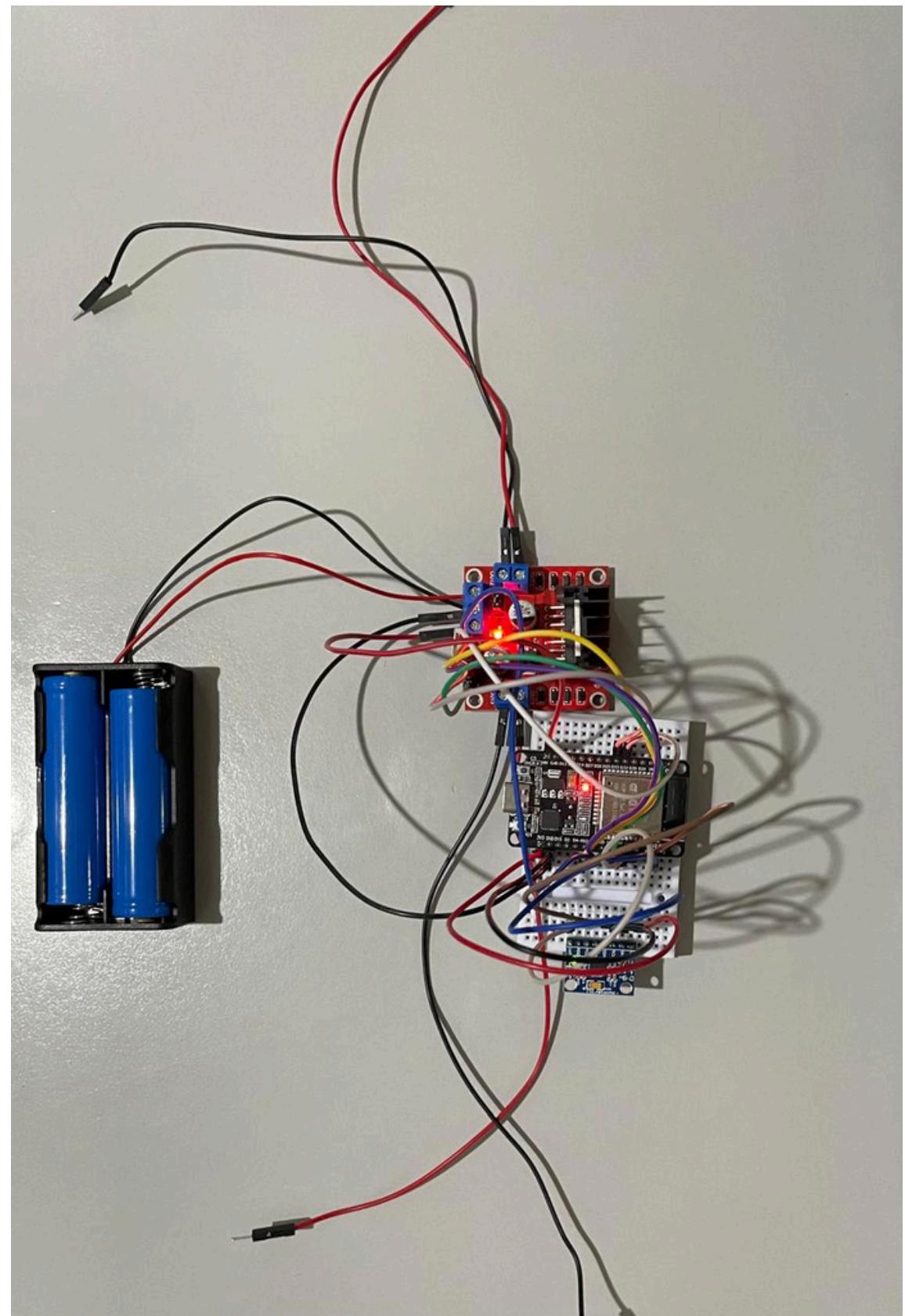
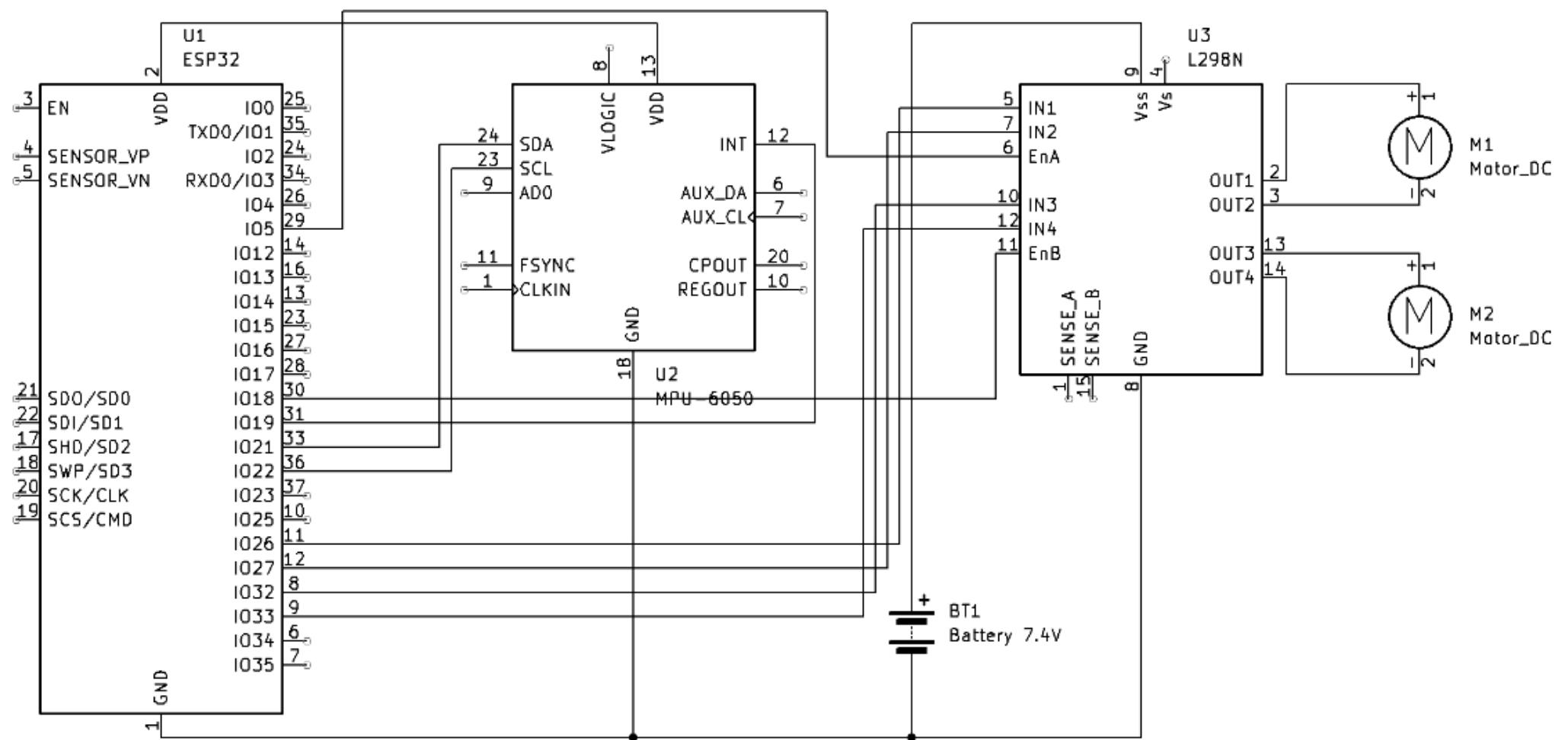
# PROBLEM STATEMENT



# DESIGN 3D



# SCHMATIC ELEC.



# SOFTWARE

**TASK  
MANAGEMENT**

**MEMORY  
MANAGEMENT &  
QUEUE**

**MUTEX &  
SEMAPHORE**

**SOFTWARE TIMER**

**MQTT, HTTP, WIFI**

**POWER  
MANAGEMENT**

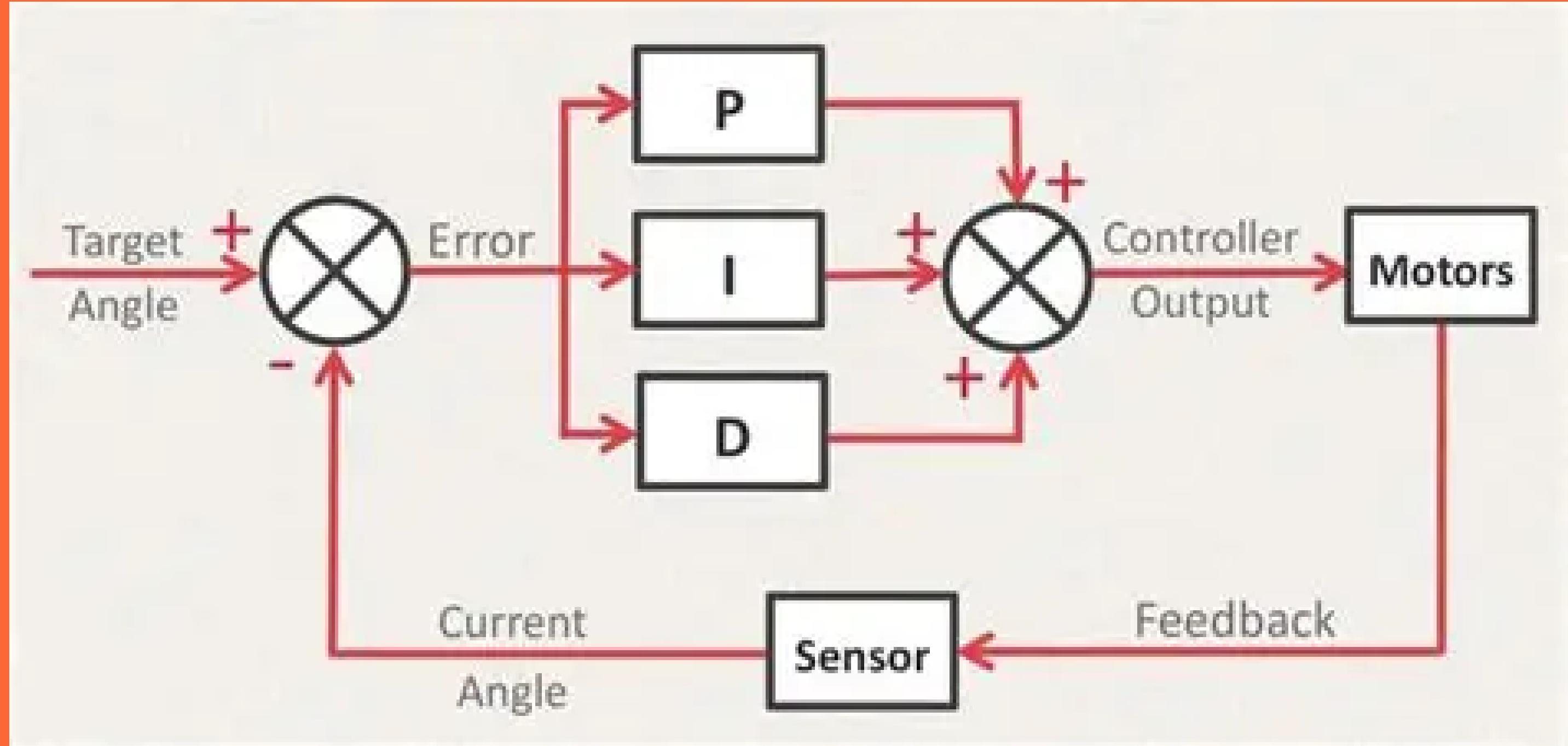
**BALANCING**

BALANCES THE ROBOT  
WITH PID (HIGH PRIORITY)



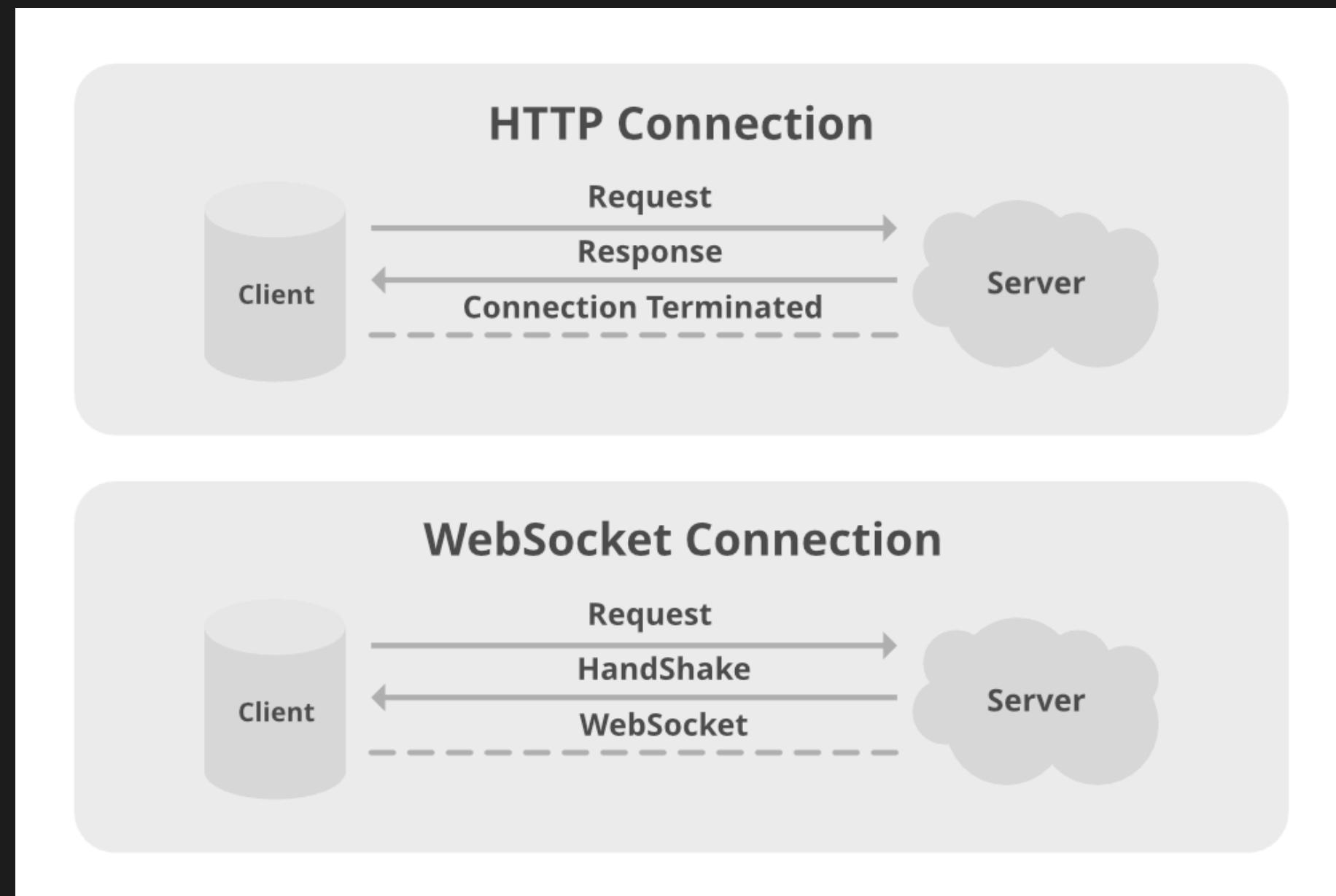
**COMMUNICATION**

COMMUNICATE FROM  
LOCALHOST TO ESP32 VIA  
WEBSOCKET (LOW PRIORITY)



# PID TUNING

# WEBSOCKET



# **DEMO**

**CLICK HERE**

**THANKYOU**