INDUCTION'24

THE SMART AGRICULTURE LINE FOLLOWING BOT

TEAM5

ABSTRACT

- **Problem Statement :**
- Agricultural fields are vulnerable to various environmental factors and threats such as soil humidity fluctuations, pollution levels, and weather conditions, which can significantly impact crop yield and quality. Additionally, monitoring these fields manually can be time-consuming, costly, and inefficient, leading to delayed detection of issues and suboptimal decision-making for farmers

Solution:

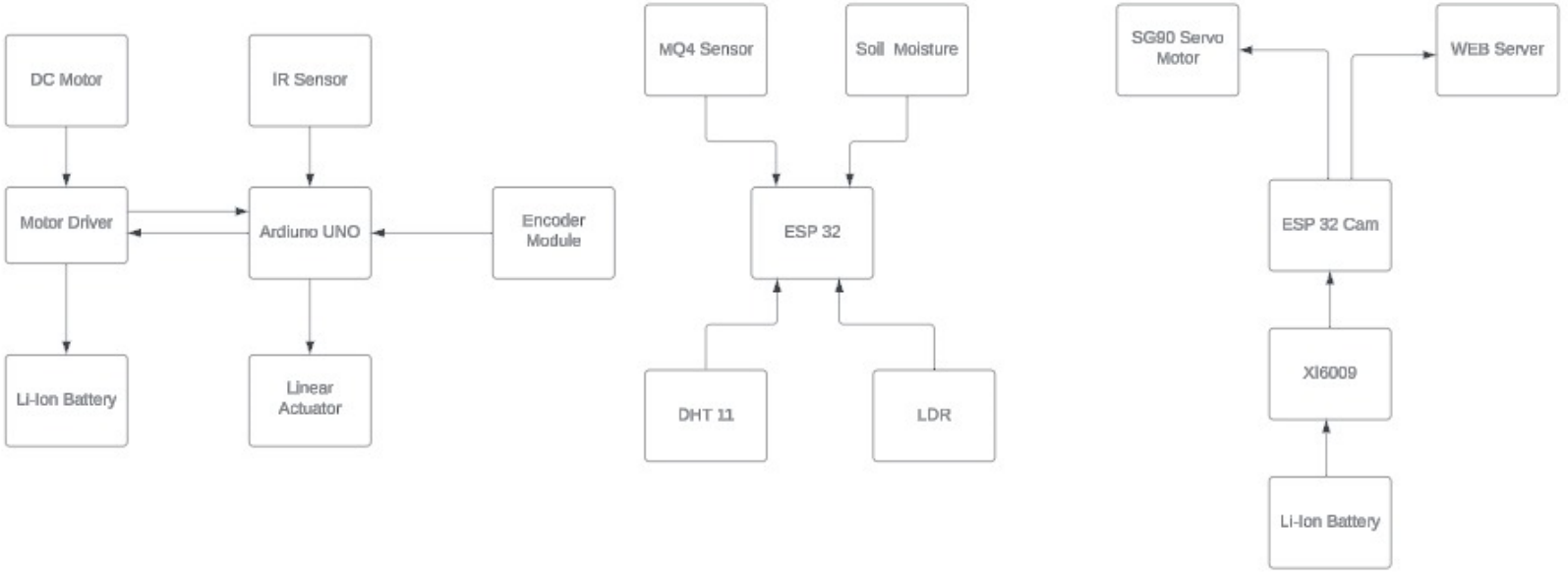
- Our project aims to address these challenges by developing an autonomous surveillance bot equipped with advanced sensors and technology. The bot will utilize a grid-based approach to systematically monitor agricultural fields, capturing real-time data on soil humidity levels, pollution concentrations, and weather conditions. Additionally, the bot will feature a 360-degree camera system for comprehensive field surveillance, enabling farmers to remotely monitor their crops and detect potential threats or anomalies promptly. By providing timely and accurate information, our surveillance bot will empower farmers to make data-driven decisions, optimize resource allocation, and enhance overall agricultural productivity and sustainability.

COMPONENTS LIST

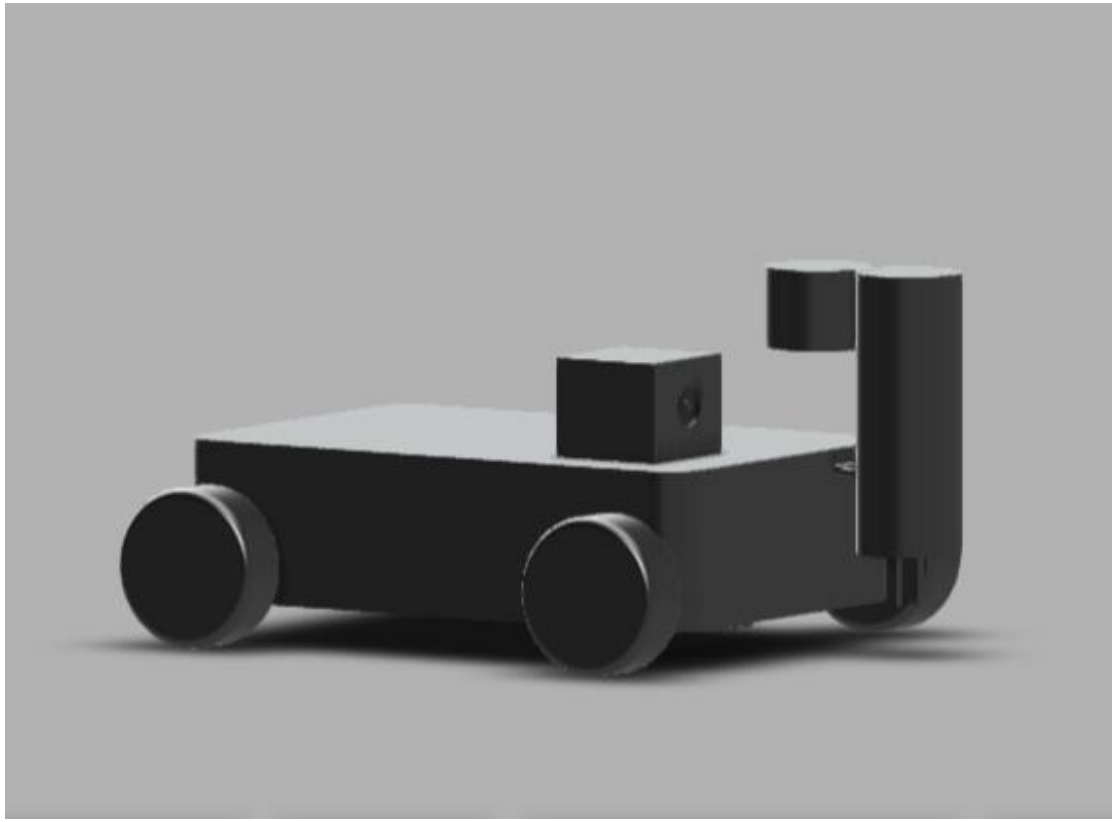
- ESP32
- ESP 32 CAM
- Ardiuno UNO
- Cable
- MQ4
- DHT11
- IR Sensor
- Bread Board
- Jumper Wires
- L298N

- 18560Battery
- Battery Holder
- Pan Tilt Servo
- SG90
- Soil Moisture Sensor
- Tyres
- LDR
- Bug BoosterXl6009
- Encoder Module

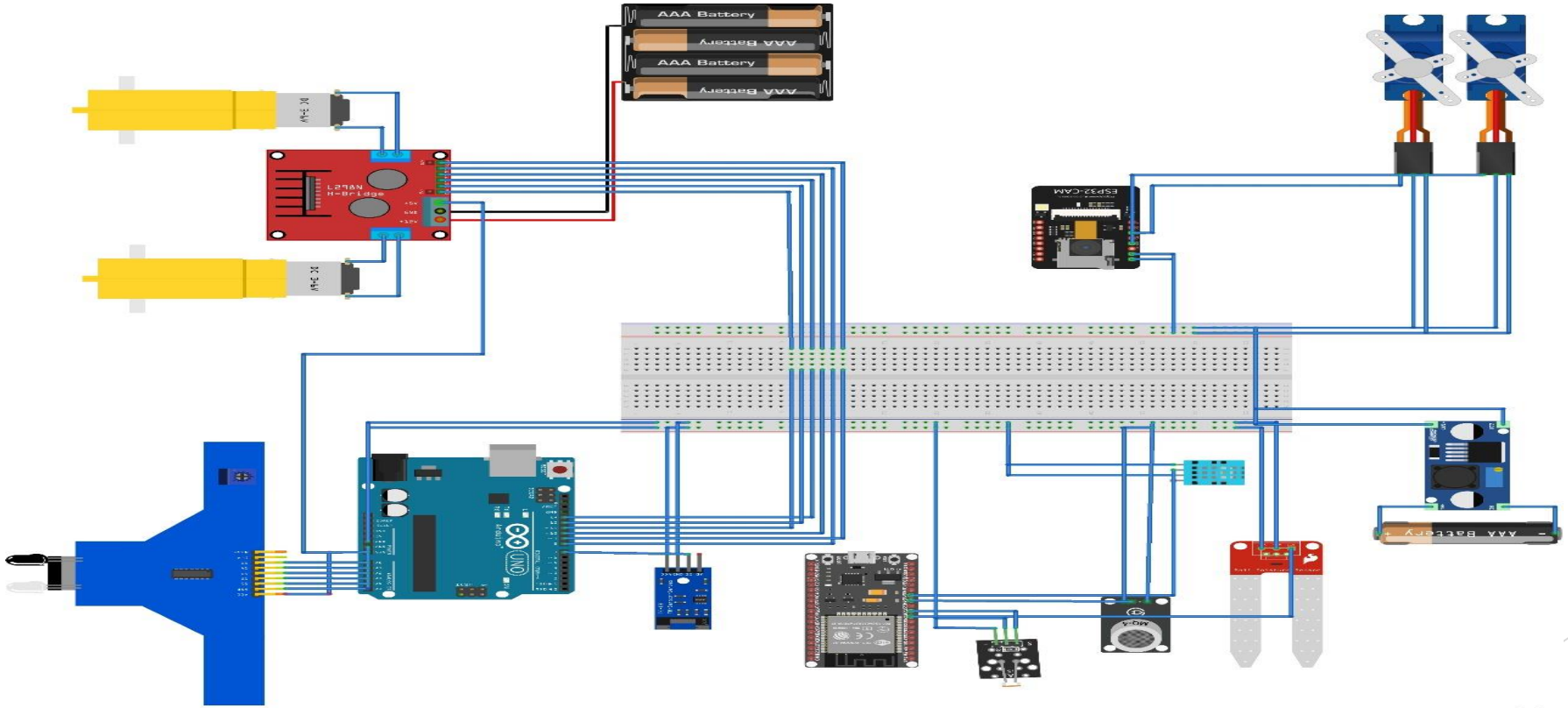
BLOCK DIAGRAM



3D MODEL (CAD)



CIRCUIT DIAGRAM



THANK YOU