Surveillance Bot Handbook

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Surveillance Bot

Step 1:

Components List:
1) ESP32CAM
2) 4DW kit
3) FTDI FT232RL FT232 USB to UART TTL
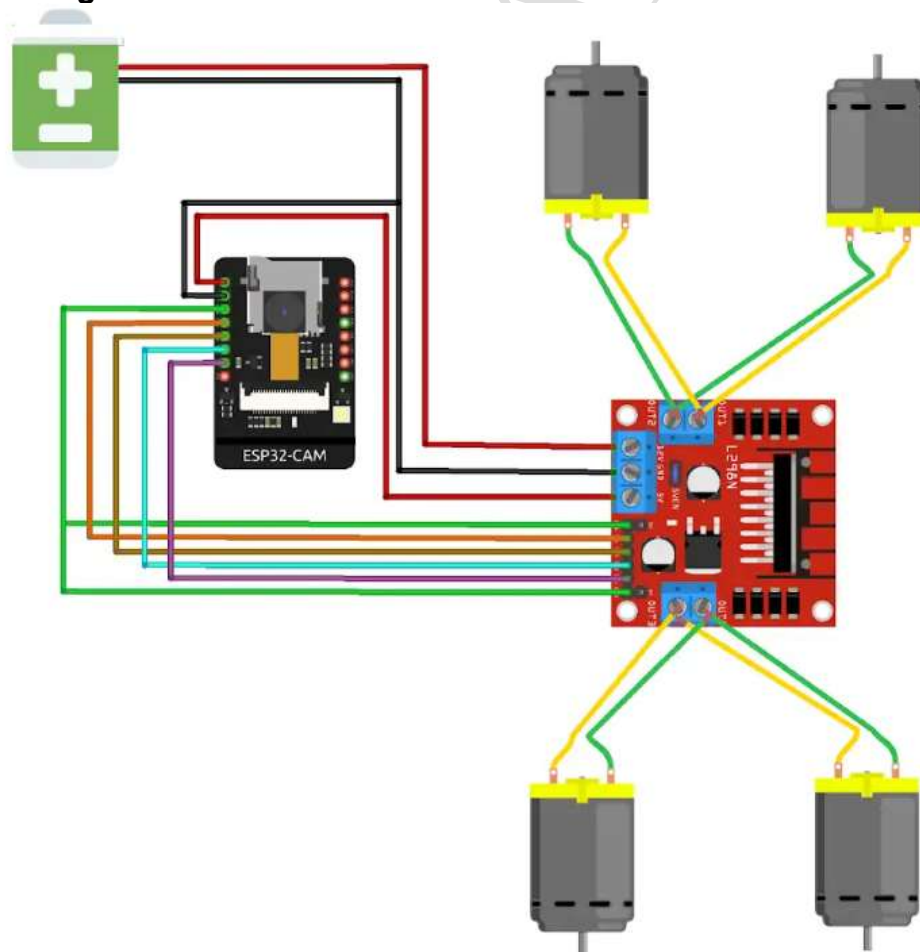4) Jumper Wires
5) Breadboard
6) L298 Motor Driver

Step 2:

Assembly Instructions
- **Construct the Bot:** Assemble the **4DW kit** by following the manufacturer's instructions.
- **Mount the ESP32-CAM:** Secure the ESP32-CAM module in a stable position for video streaming.
- **Go Through Raak Sapphire YouTube Channel** Or visit this link: Surveillance Bot Guide
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Step 3:

Circuit diagram

Step 4:

Wiring Guide
- **ESP32-CAM to L298N Motor Driver:** Ensure correct motor control wiring.
- **Motor Driver to Motors:** Connect motor terminals properly.
- **Power Connections:** Verify stable power supply for all components.

Step 5:

Software Setup and Programming
- **Install the Arduino IDE:** Download and install from the official Arduino website.
- **Load the Code:** Write or paste the provided ESP32-CAM video streaming and motor control code.
- **Upload the Program:** Connect ESP32-CAM via FTDI module, select the correct board, and upload.

Step 6:

Operating the Surveillance
- **Power On:** After wiring and uploading the code, turn on the bot.
- **Control Movements:** Use a Wi-Fi-based interface or pre-programmed controls to navigate the bot.
- **Live Stream Video:** Access the ESP32-CAM's IP address in a browser to view the real-time video feed.

Troubleshooting
- **Bot Not Moving:** Check motor driver connections and power supply.
- **No Video Feed:** Ensure ESP32-CAM is properly configured and connected to Wi-Fi.
- **Erratic Movements:** Verify wiring, especially motor control connections.

Maintenance and Safety

- Regularly inspect all connections for wear and tear.
- Keep the bot away from water and extreme temperatures.
- Secure all components to prevent loose connections during movement.

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