Program

Algorithm for Rover:

1. Start the system.

2. Connect ESP32-CAM to WiFi network.

3. Initialize DC motors and motor driver module.

4. Start camera streaming to the web server.

5. Wait for user input from the web interface.

6. If command is Forward:

- Rotate both motors forward.

7. If command is Backward:

- Rotate both motors backward.

8. If command is Left:

- Rotate left motor backward and right motor forward.

9. If command is Right:

- Rotate left motor forward and right motor backward.

10. If no command or Stop command:

- Stop both motors.

11. Continuously send live video feed.

12. Repeat steps 5–11.

Algorithm for Robotic Arm:

1. Start the system.

2. Connect ESP32 to WiFi network.

3. Initialize all four servo motors (Base, Shoulder, Elbow, Gripper).

4. Wait for user input from the web interface.

5. If command is Rotate Base:

6. Move Base servo to desired angle.

7. If command is Move Shoulder:

8. Move Shoulder servo up/down.

9. If command is Move Elbow:

10. Move Elbow servo up/down.

11. If command is Open/Close Gripper:

12. Rotate Gripper servo accordingly.

13. Update the servo positions.

14. Repeat steps 4–9.