TRASH DISPOSAL ROBOT

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Abstract
In this project, a waste collection robot design suitable for indoor use has been developed.The robot detects predefined trash item in its surroundings through image processing, picks them up, and places them into its container. Later, it takes the collected waste to a trash bin for disposal.
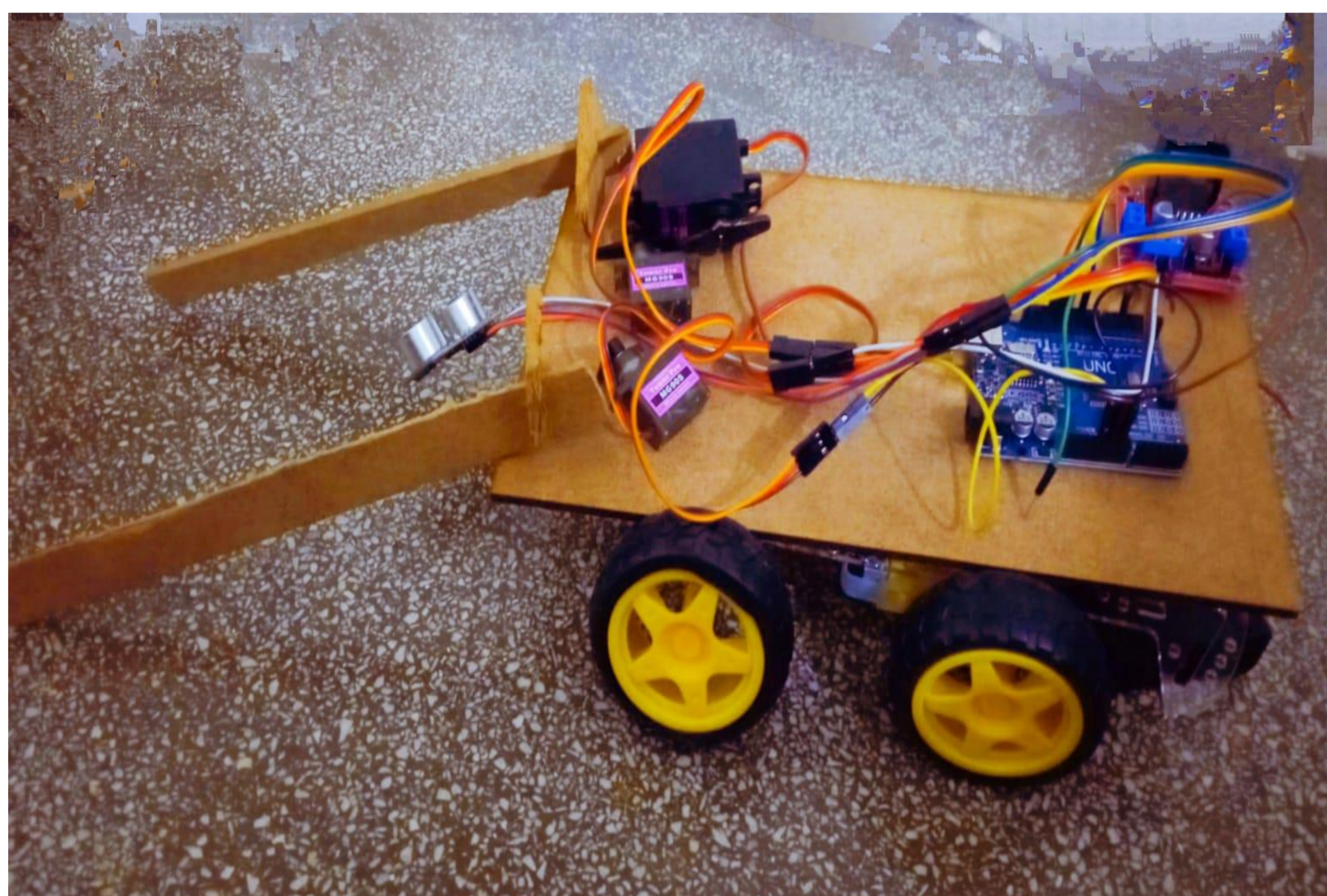
Main Components
- ESP32,
- Camera modüle
- Servo motors
- Arduino UNO
- L298N motor driver

The camera module takes a photo of the detected obstacle and sends it to the computer via the Wi-Fi module. The computer performs a matching process, and if it matches one of the defined types of trash, the robot picks up the trash.
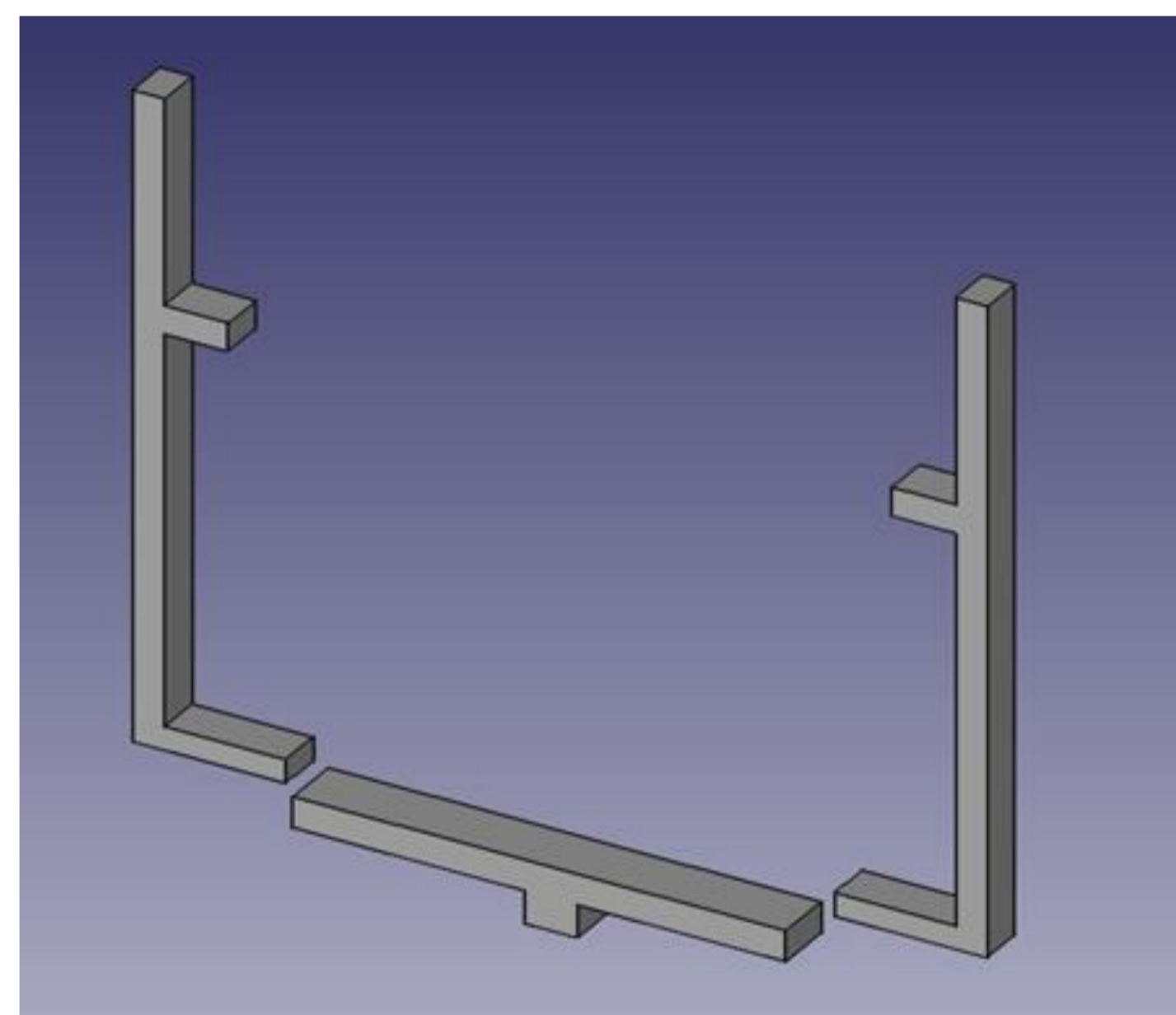
Conclusion
The successful development of this type of robot would revolutionize environmental protection. It would open up new avenues for addressing environmental problems in efficient and effective ways. This project would not only benefit the environment, but would also have a positive impact on society by reducing the cost of services and improving public health.We conducted an experiment to test whether the robot would differentiate between garbage and people's things, and the success rate of the experiment was 90%.

References
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