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# Robotic Arm



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# Introduction

In view of the progress in human life and the technological development of our time.

1- A robot was created and invented to facilitate many processes and works for humans to save time and effort.

2- It helps in exploring areas that can not access by humans, such as tunnels, caves and narrow areas.



## Main Features

- The robot has an arm and car that moves in all directions by controlling it with a mobile.

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- The robot have a camera that helps in the exploration process as it visualizes the places and accordingly the objects are moved.

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- it uses to search for items and move them from one place to another



## Material

- 2 DC gear motor 12VDC 150RPM
- 1 Dual H-Bridge Motor Controller.
- 6 servo motors.
- Breadboard.
- ATmega255 with Esp8266.
- Serial camera.
- Aluminum Arm Robot 6 DOF Kit
- Sd card and sd card module



MG996 Metal Gear  
high Torque Servo

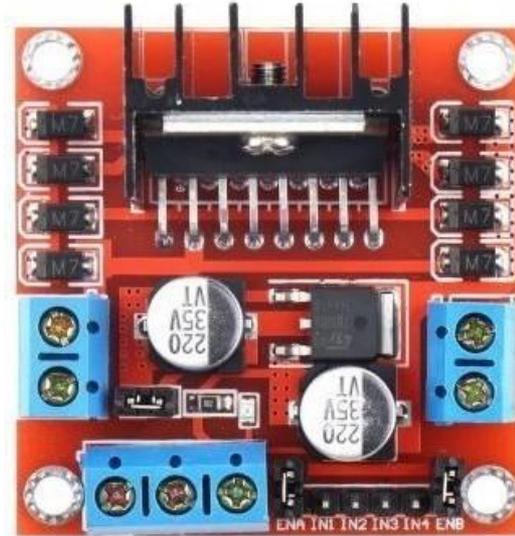


38g S3003 Standard  
Servo Motor

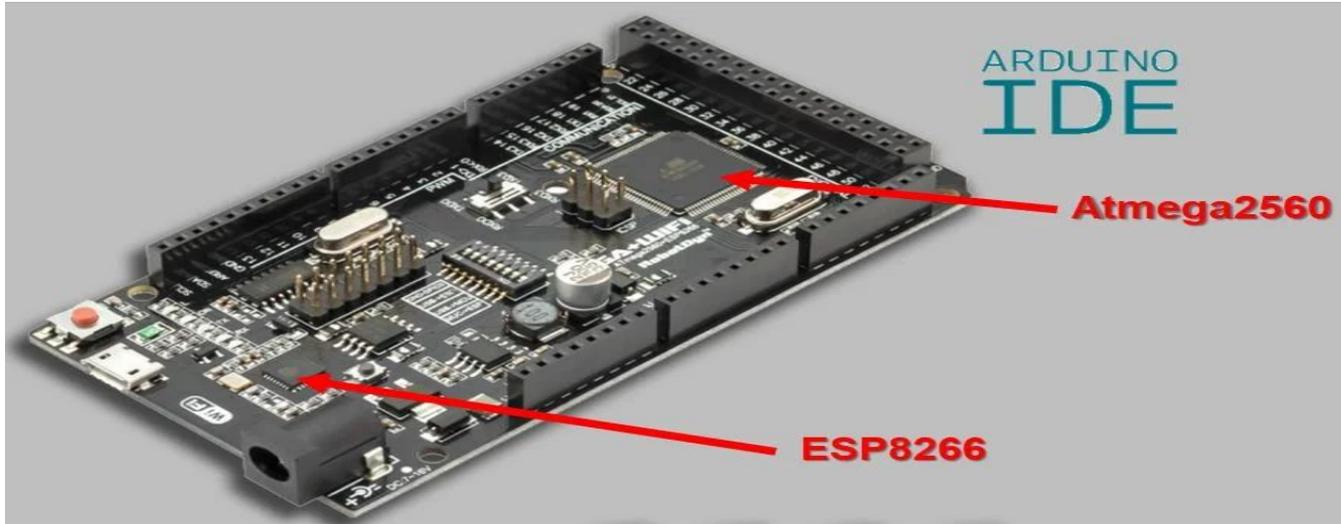


20KG High Torque  
DS3218MG servo

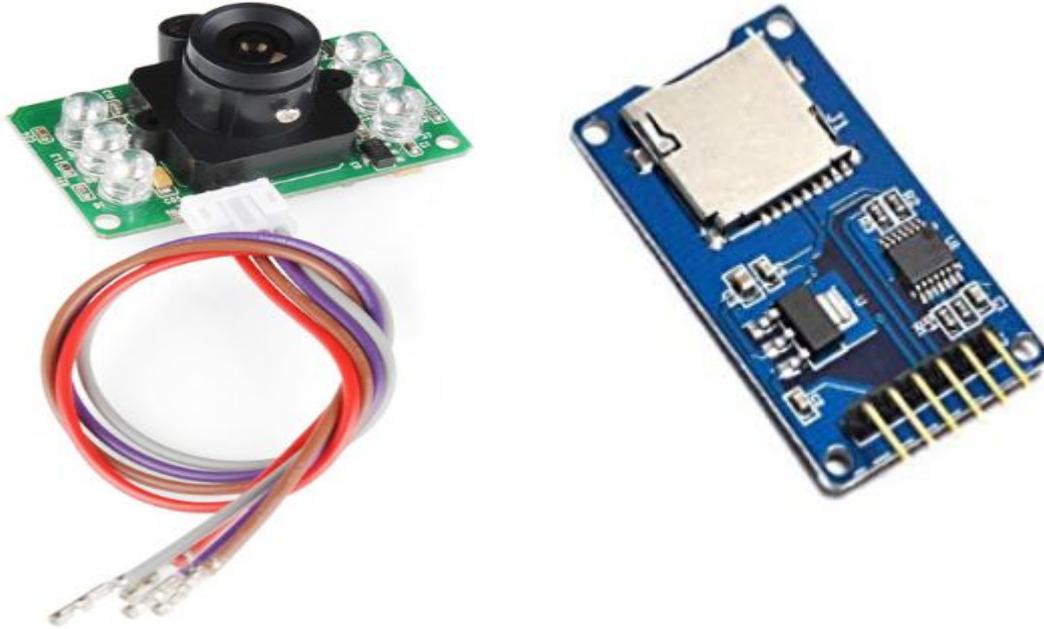
## DC Motor and Dual H-Bridge:



# ATmega255 with Esp8266



— Link sprite jpeg color serial camera  
and sd card



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# Project structure:

Arm structure:



Car structure:

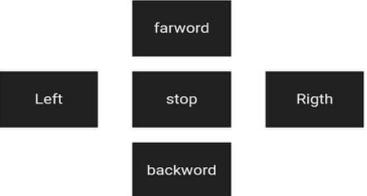




# The Software Part:



### Car Control



### Arm Control



## Arm Control





Show the Demo



## Constraints

- Problem with servo motor and DC motor with large current required.
- The problem with designing the model like design bracket for the car with 3D printer
- Deal Camera with arduino .
- Time.



## Future Work

- Send live video instead of photos.
- Add sensors on car to prevent collision obstacles