Weapon Detection using Artificial Intelligence and Deep Learning for Security Applications Levels

About us!

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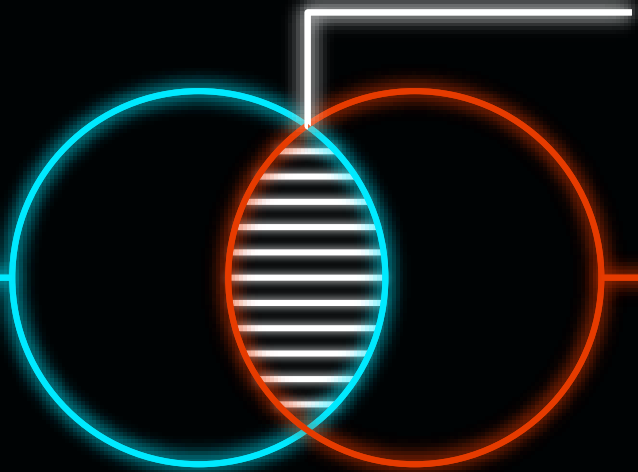
Date Of Submission :14/06/2022

PROJECT PRESENTATION

Weapon Detection using Artificial Intelligence and Deep Learning for Security Applications Levels



PART ONE(50%)

PART ONE CONSIST OF A MOVING ROVER DRONE

PART TWO(80%)

PART TWO CONSIST OF IMPLIMENTATION OF OBJECT DETECTION

PART 3 (100%)

WEAPON DETECTING DRONE WITH OBJECT DETECTION

PART ONE

THE 50% OUTCOME THE
MOVING DRONE

TABLE OF CONTENTS

THE INDRODUCTION

- As Per Shown In Datagram Our Team Desided To Partition The Project.
- The First Review Contain The 50 % Outcome Which Include A Rover Drone Controlled By A Smartphone Application.
- The Rover Drone Is Contain Motor& Wheels,micro Controller,motor Controling Unit ,Recever And Transmitter,powe Unit,application&smart Phone .
- The Implimentation Of This Rover Drone Was Very Economical And Simple In Nature.

02

THE PROPOSED SYSTEM

THE PROPOSED SYSTEM

1.Motor& Wheels.

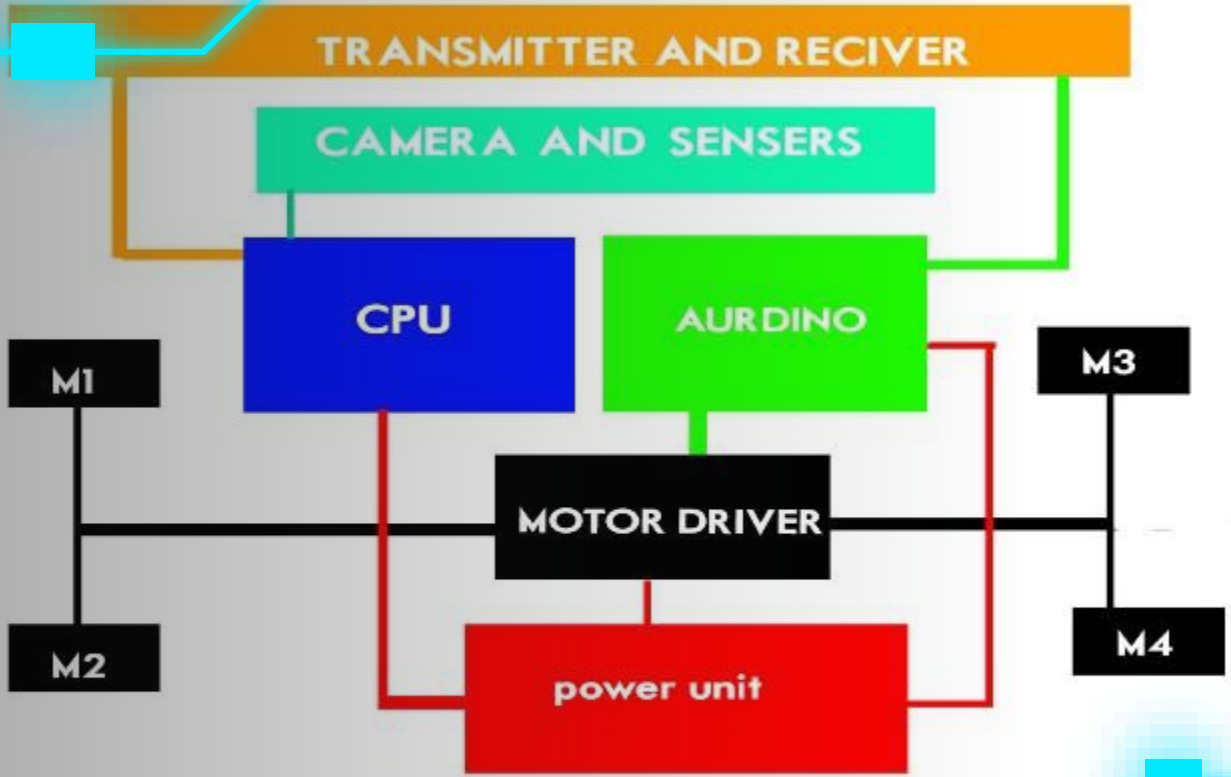
2.Micro Controller

3. Motor Controling Unit

4. Recever And Transmitter

5.Powe Unit

6.Application&smart Phone



SCHEMATIC

CBASIC DIAGRAM

03

MODULES USED

MODULES USED

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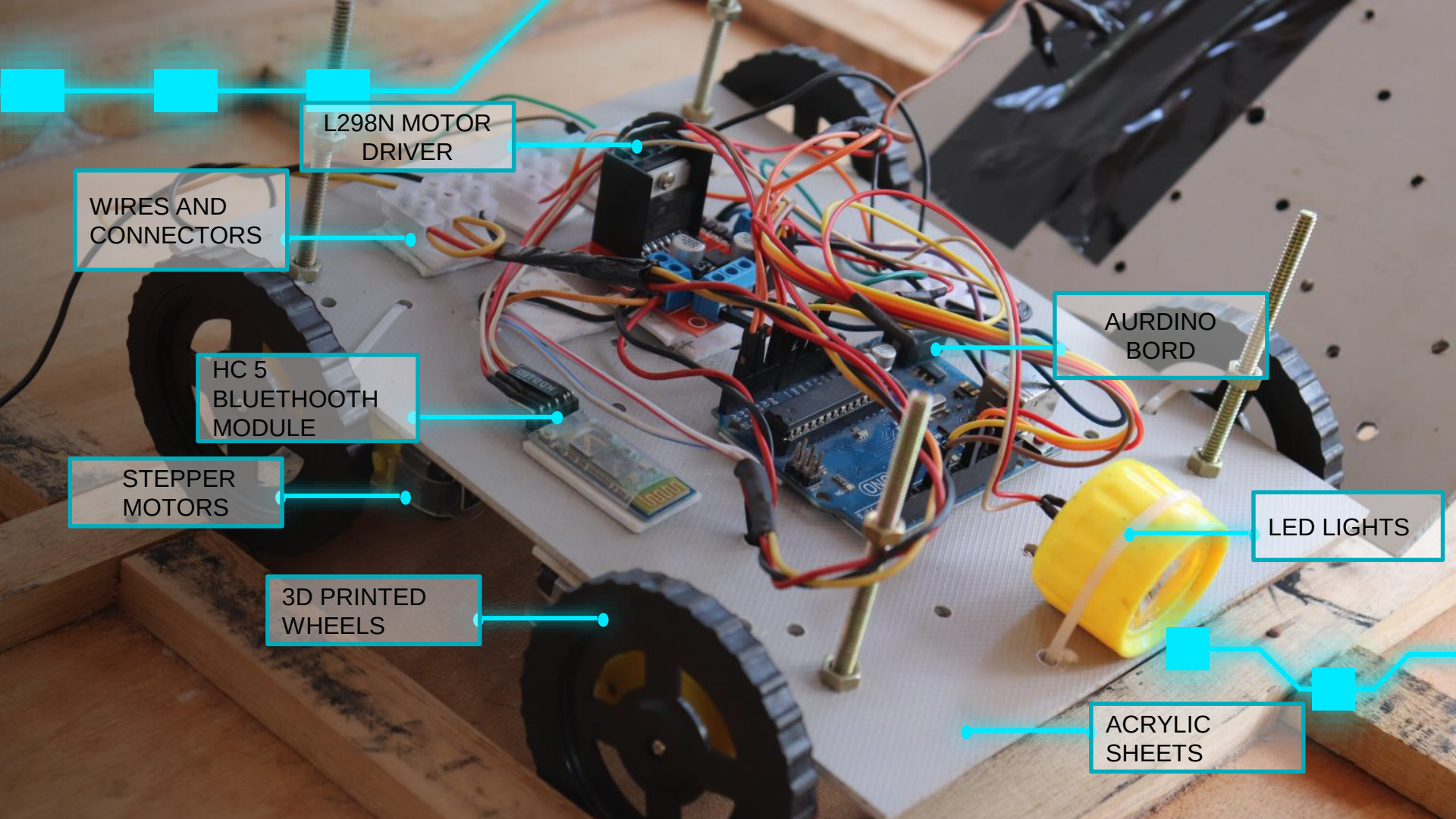
- Acrylic Sheets
- Nut and bolts
- 3d printed wheels
- Gearmotor
- L298n motor driver
- Aurdino board
- Hc05 blue thooth module
- Led lights
- Wires
- Li ion battary with bms system


L298N MOTOR DRIVER
WIRES AND CONNECTORS
AURDINO BORD
HC 5 BLUETHOOTH MODULE
STEPPER MOTORS
LED LIGHTS
3D PRINTED WHEELS
ACRYLIC SHEETS

Acrylic Sheets

- Acrylic is a transparent plastic material with outstanding strength, stiffness, and optical clarity
- Acrylic sheet is easy to fabricate, bonds well with adhesives and solvents, and is easy to thermoform.
- It has superior weathering properties compared to many other transparent plastics.

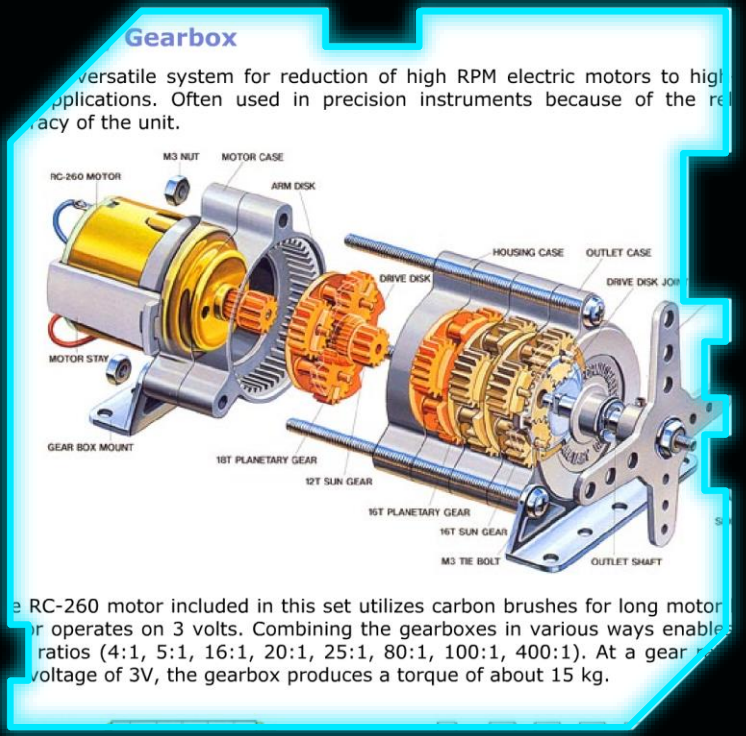
3d printed wheels

- 3D printing or additive manufacturing is the construction of a three-dimensional object from a CAD model or a digital 3D model.
- It can be done in a variety of processes in which material is deposited, joined or solidified under computer control, with material being added together, typically layer by layer.

For cad www.thingivers
Video:www.youtube.com

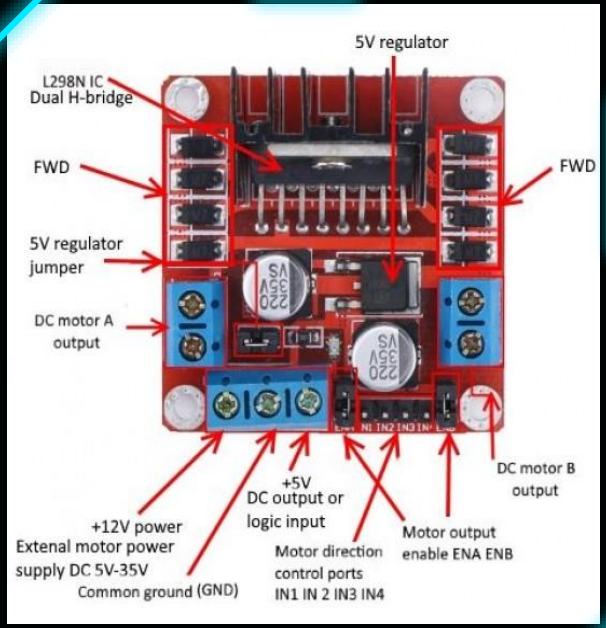
Gear motor

- A gearmotor(or geared motor) is a small electric motor (AC induction, permanent magnet DC, or brushless DC) designed with an integral (non-separable) gear reducer (gearhead) attached
- Working of gear motor:
- You tube



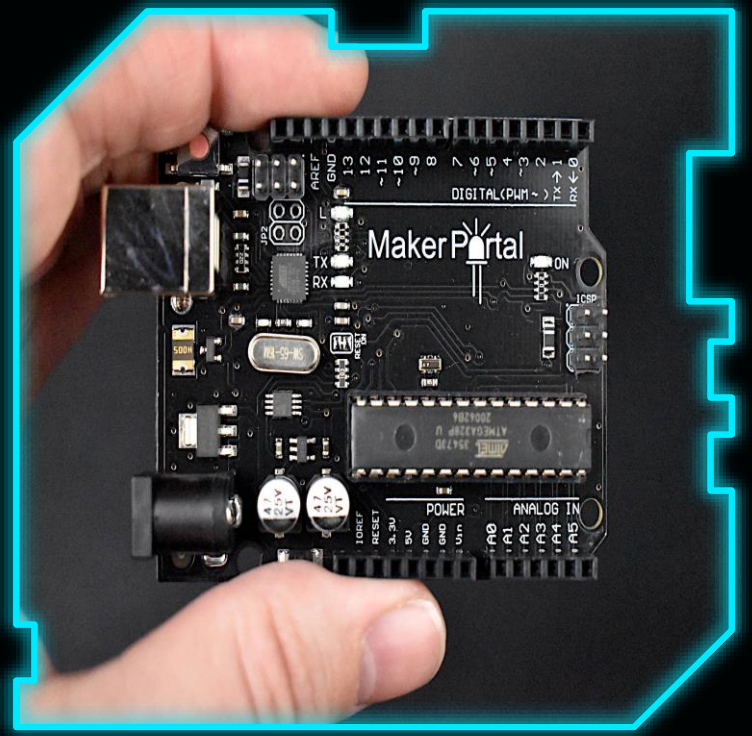
L298n motor driver

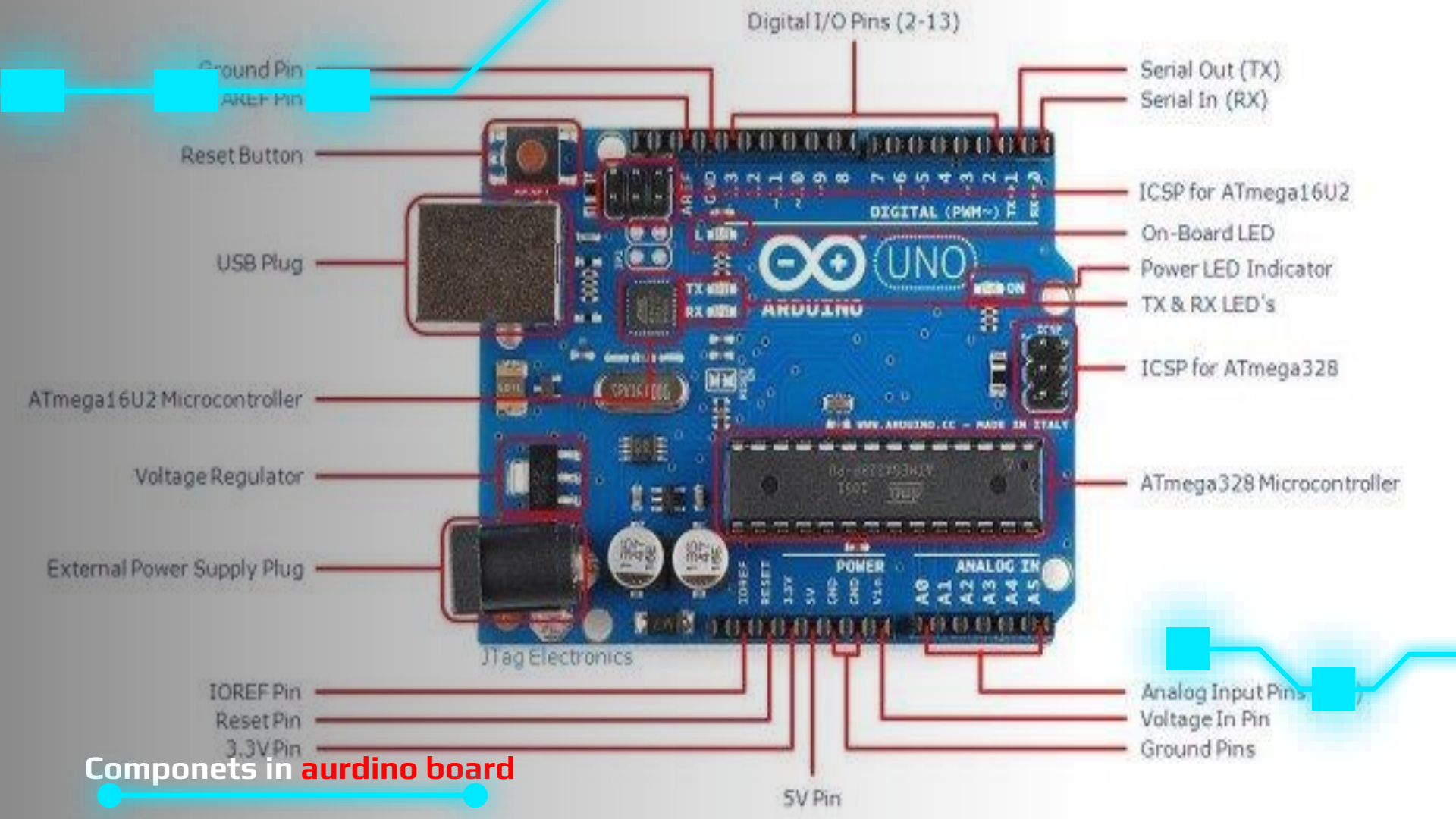
- The L298N is a dual H-Bridge motor driver which allows speed and direction control of two DC motors at the same time.
- The module can drive DC motors that have voltages between 5 and 35V, with a peak current up to 2A.
- L298n motor driver working:You tube



Aurdino board

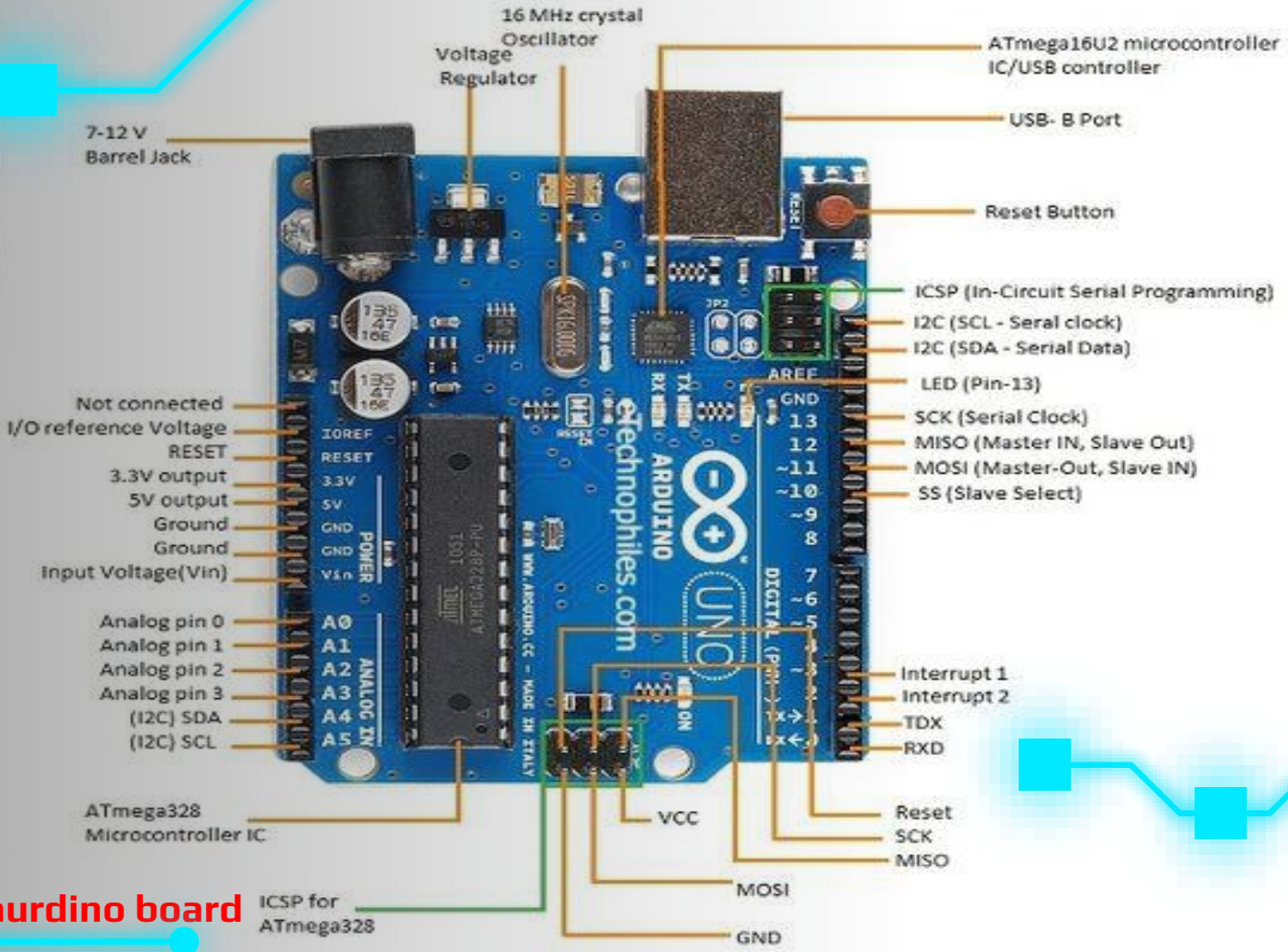
- Arduino is an open-source electronics platform based on easy-to-use hardware and software.
- Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online.





Componets in aurdino board

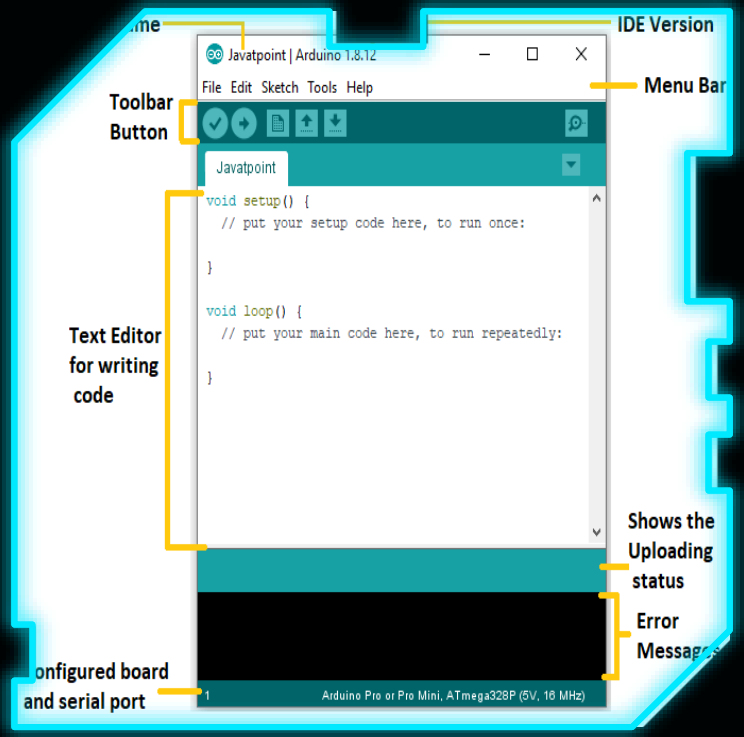
Arduino UNO Pinout



Pin diagram in aurdino board

Arduino Software (IDE)

- The Arduino Integrated Development Environment - or Arduino Software (IDE) - contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions and a series of menus.
- It connects to the Arduino hardware to upload programs and communicate with them.

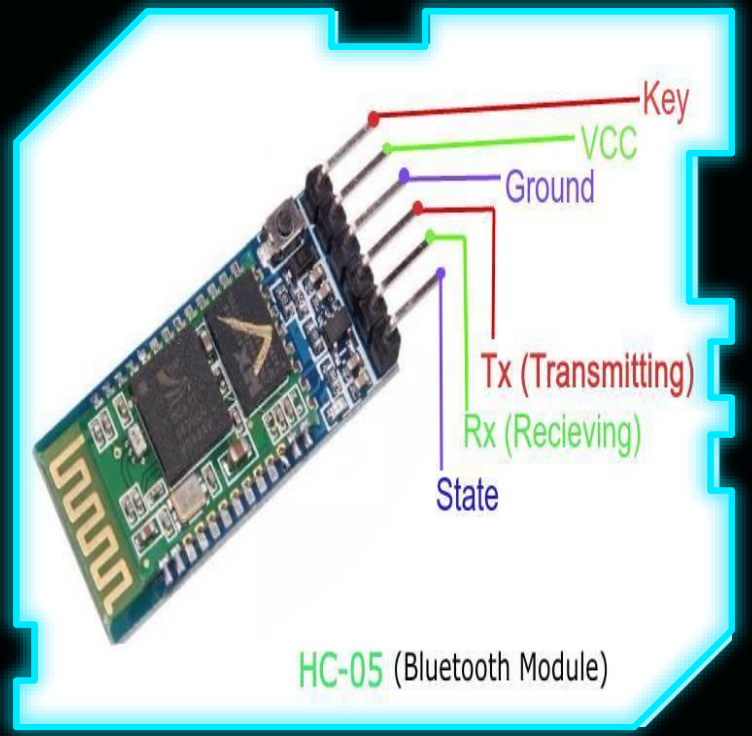


Aurdino program

- Arduino code is written in C++ with an addition of special methods and functions, which we'll mention later on.
- C++ is a human-readable programming language. When you create a 'sketch' (the name given to Arduino code files), it is processed and compiled to machine language.
- The program code: Drone code

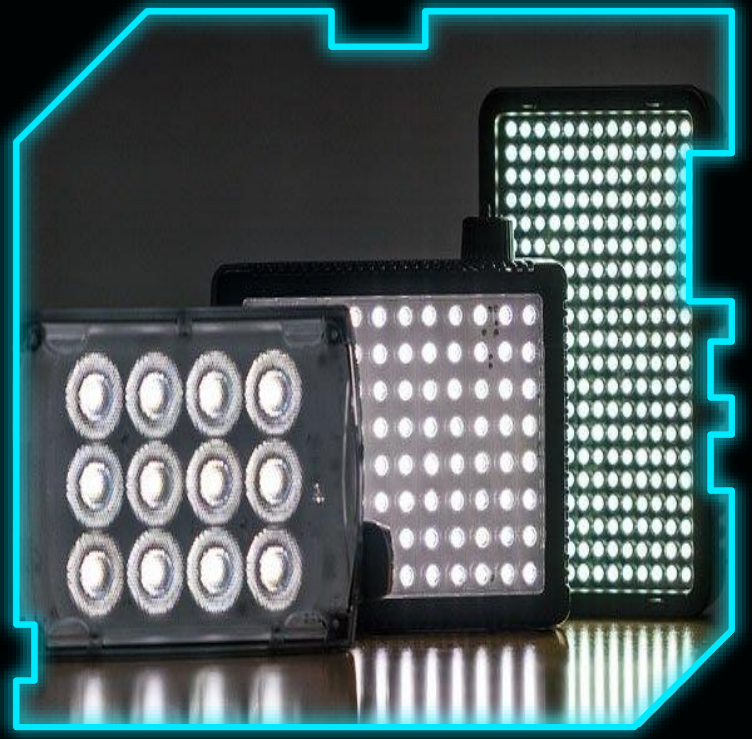
Hc05 blue thooth module

- HC-05 Bluetooth Module is an easy to use Bluetooth SPP (Serial Port Protocol) module, designed for transparent wireless serial connection setup.
- Its communication is via serial communication which makes an easy way to interface with controller or PC.



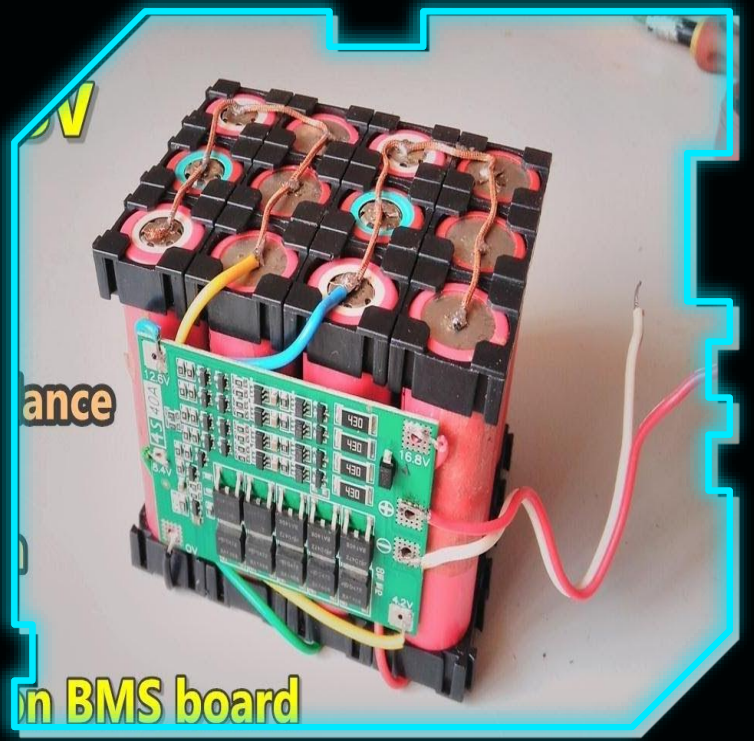
LED lights

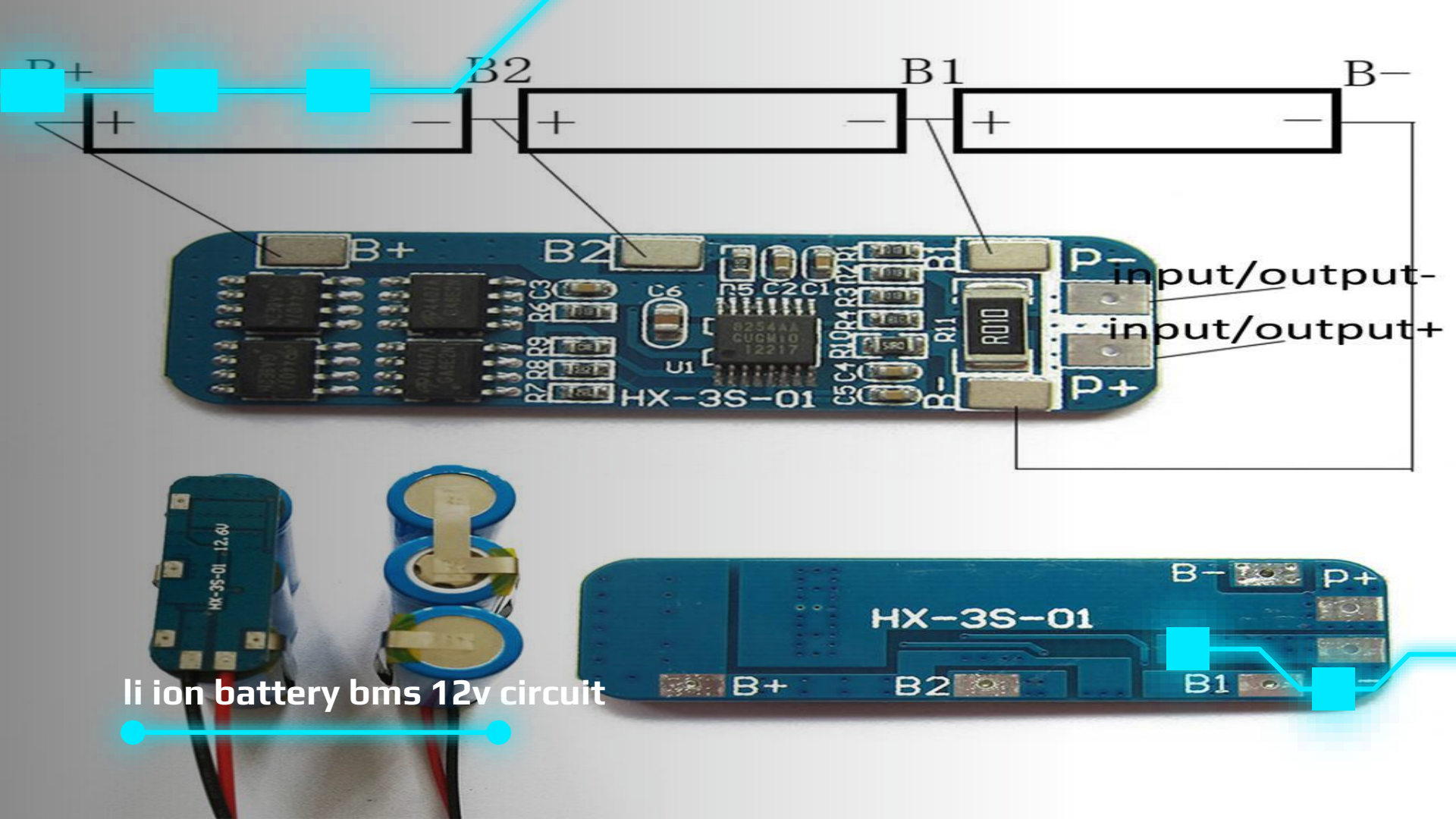
- The light-emitting diode (LED) is today's most energy-efficient and rapidly-developing lighting technology.
- Quality LED light bulbs last longer, are more durable, and offer comparable or better light quality than other types of lighting.



Li Ion Battary
And Bms Circuit

- **A lithium-ion battery**
- Li-ion battery is a type of rechargeable battery composed of cells in which lithium ions move from the negative electrode through an electrolyte to the positive electrode during discharge and back when charging.
- **Li-ion battery BMS**
- A BMS (Battery Management System) is essential in a Lithium-Ion battery system. This device manages a real-time control of each battery cell, communicates with external devices, manages SOC calculation, measures temperature and voltage, etc.

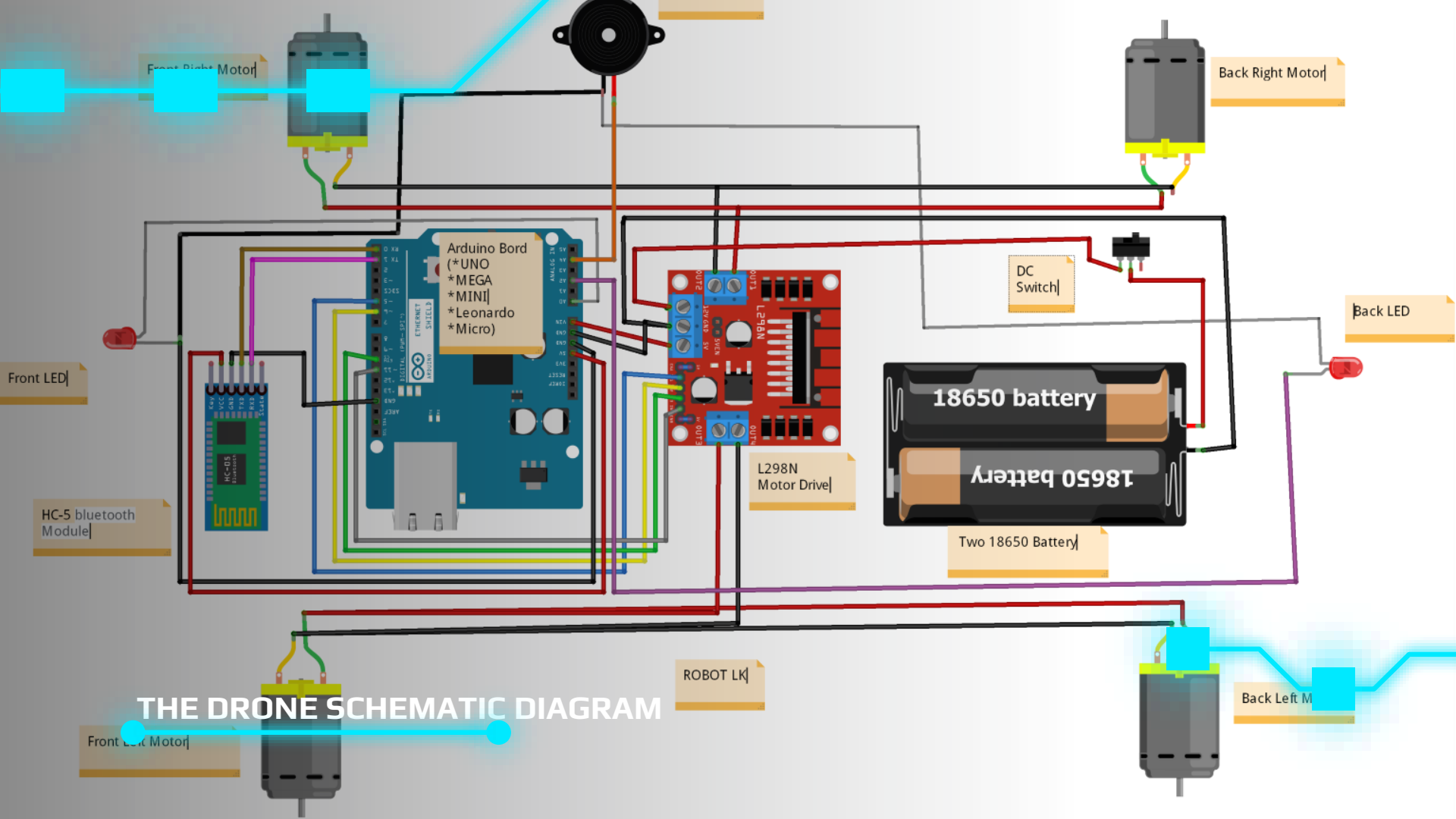




li ion battery bms 12v circuit

The rover controlling app
Project Rower Rc

The app is builted for communicating the rc rover and smart bphone through the blue thooth medium
By the controller we can controll the rover speed ,movements and 4 additianal chanells used for distruction,lights,and signaling.



THE DRONE SCHEMATIC DIAGRAM

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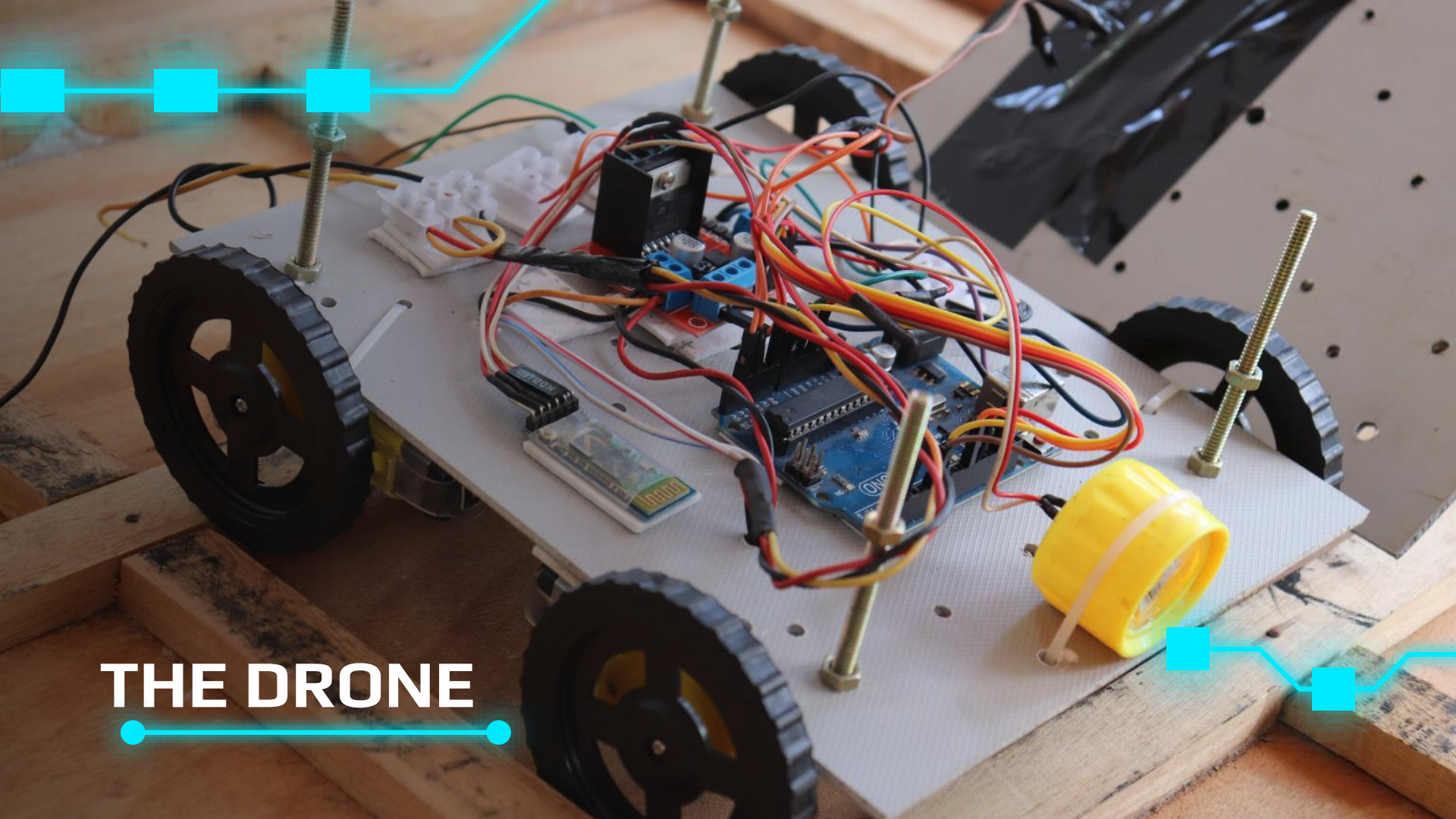
RESULT



THE DRONE


10:39
24.0 KB/S
57%
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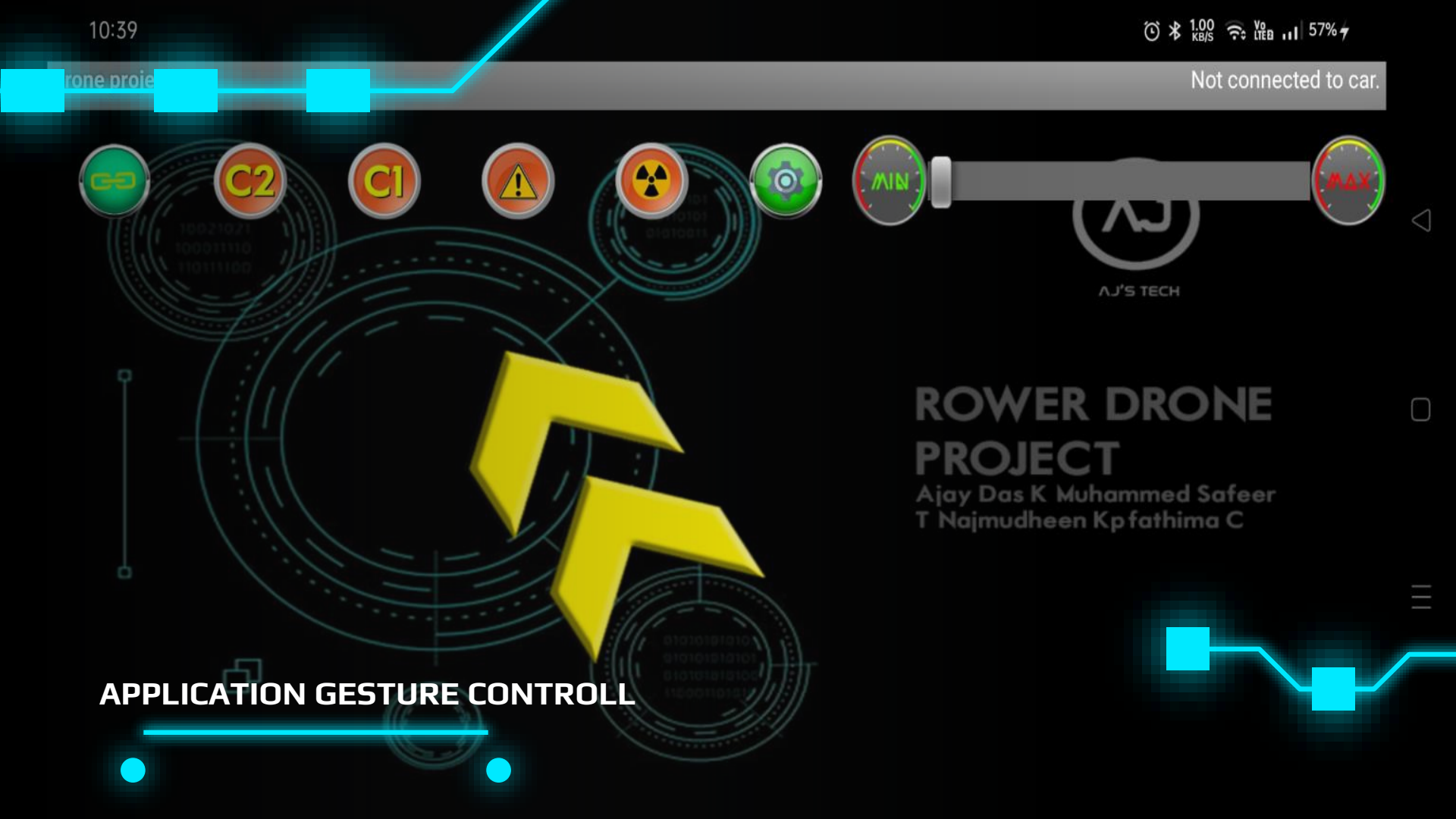
Not connected to car.
C2
C1
MIN
MAX
AJ'S TECH
ROWER DRONE
APPLICATION


10:39
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rone proje
Not connected to car.
C2
C1
MIN
MAX
AJ'S TECH
ROWER DRONE PROJECT
Ajay Das K Muhammed Safeer
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APPLICATION GESTURE CONTROLL

05

PROJECT STATUS

- THE 50% OUTPUT IS COMPLETED SUCESSFULLY
- THE ROVER DRONE IS COMPLETY IMPLIMENTED AND FULLFILLING ALL THE REQUIRMENTS

06

CONCLUSION

- THE DRONE PROJECT EFFECTIVELY UTILIZES CPP CODIND SKILS AND ELECTRONIC KNOWLEDGE
- SIMPLE ARCHITECTURE AND EFFECTIVE USE OF RESOURSES MKES THE IMPLIMENTATION MORE FASTER

THANKS!

Do you have any questions?