

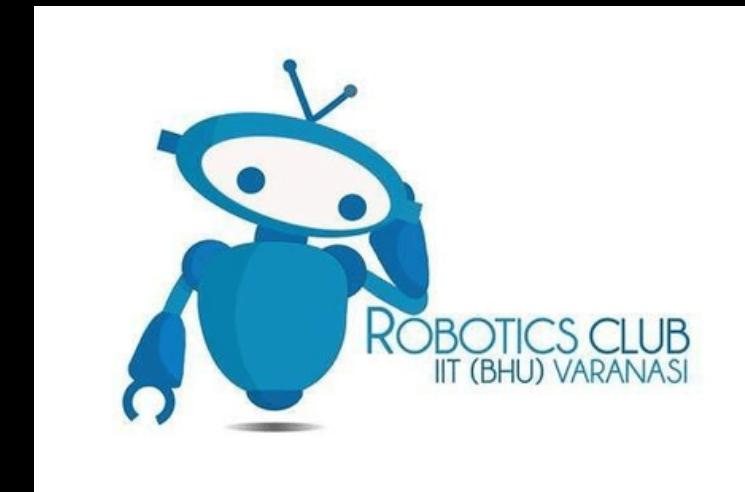


HARDWIRED

# SECOND WORKSHOP

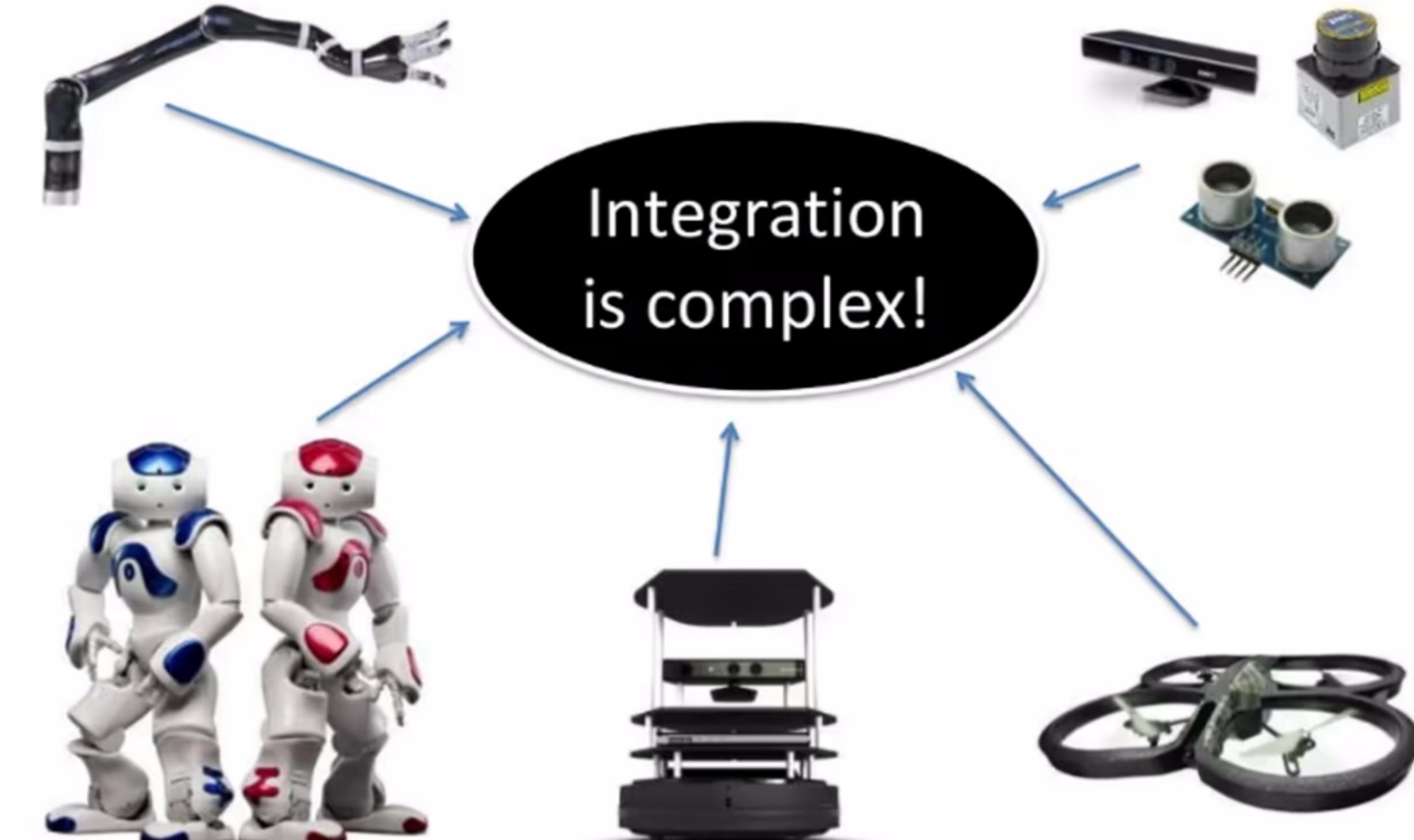


**ROS  
WORKSHOP  
AND  
ESP8266**



# **WELCOME TO ROS!!!**

## Challenge in Robotics



**ROS** is the solution!

# ROS COMMUNICATION

ROS Master:

- Collects all the new messages and distributes them within nodes
- Start a master with: roscore

Nodes:

- Single purpose, executable program
- Building blocks of your program  
(program+program+.....)
- Compiled and executed individually

# ROS Topics

ROS Topics:

- Nodes communicate through topics.
- Publisher - Subscriber:
  - In this type of communication each node acts either like a Publisher (which publishes a data) or a Subscriber (which receives a data).
  - The publisher publishes a data in a Topic and the subscriber subscribes from that topic.

Some useful commands:

`rostopic list` (lists currently active topics)

`rostopic echo /<topic_name>` (prints the contents of topic)

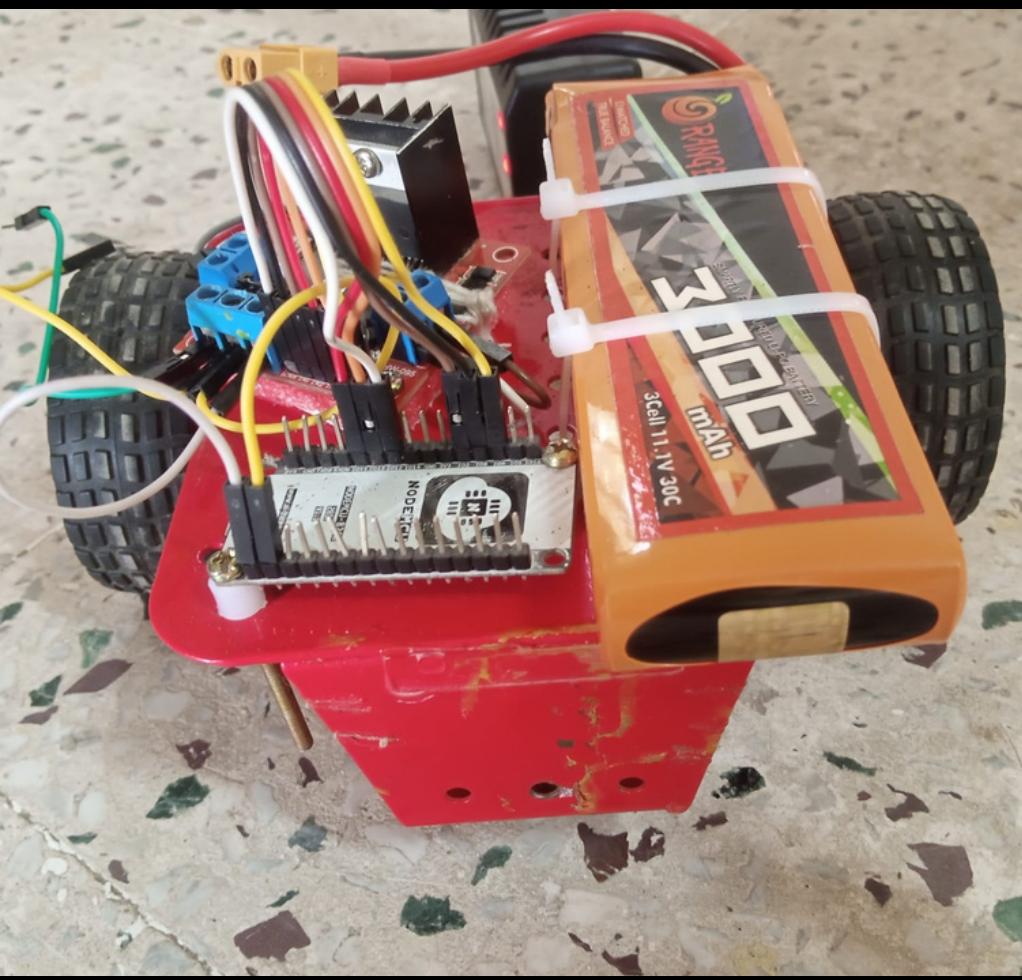
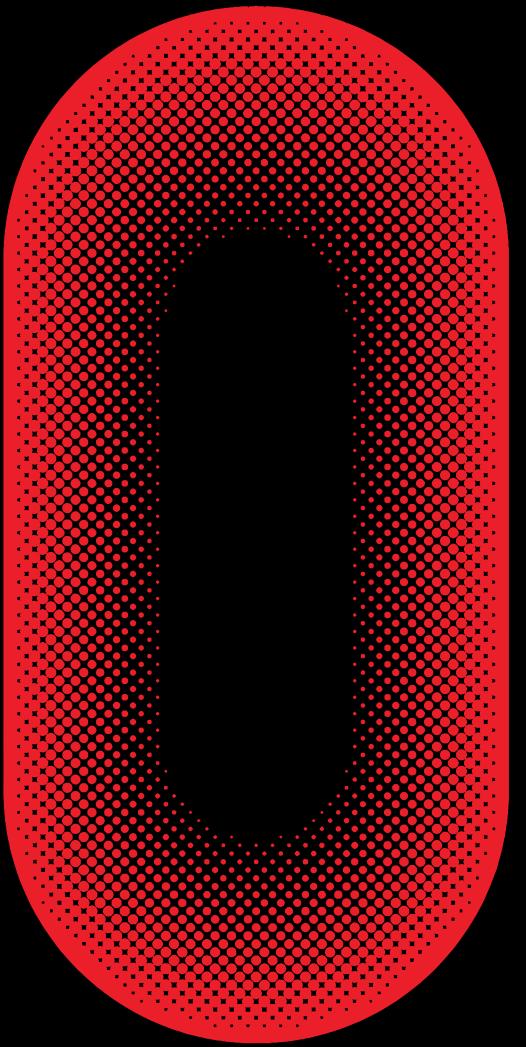
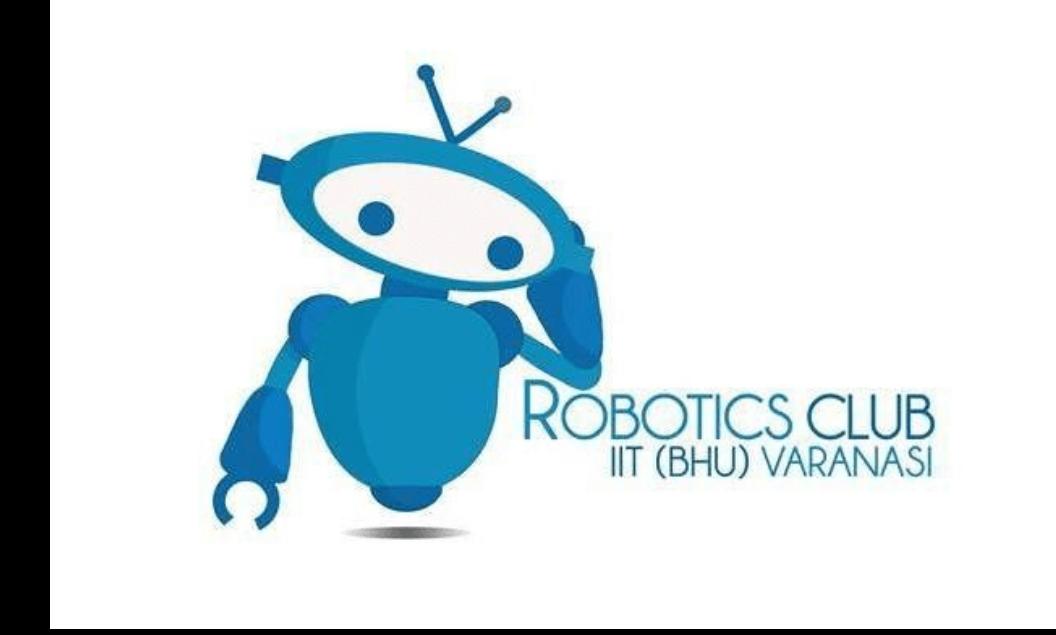
`rostopic info /<topic_name>` (shows information about topic)

# RUNNING A PYTHON NODE

- `chmod +x <node_name>` (before running a node, use this to make it executable)
- `rosrun <package_name> <node_name>`
- `rosnode list` (this command shows all the current active nodes)
- `rosnode info <node_name>` (to get info about a node)

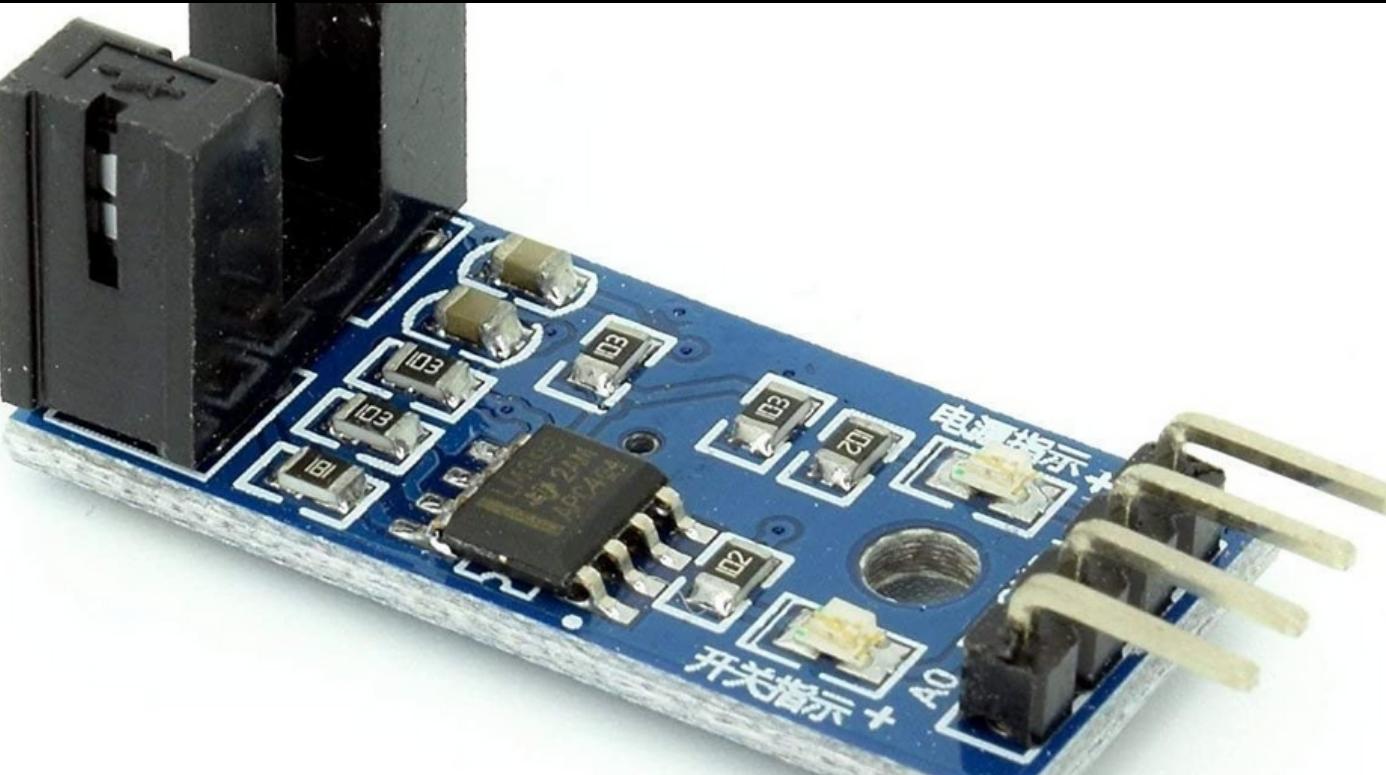


READY  
FOR  
NEW  
EXPERIENCE?



LEARN  
ABOUT  
THE  
HARDWARE





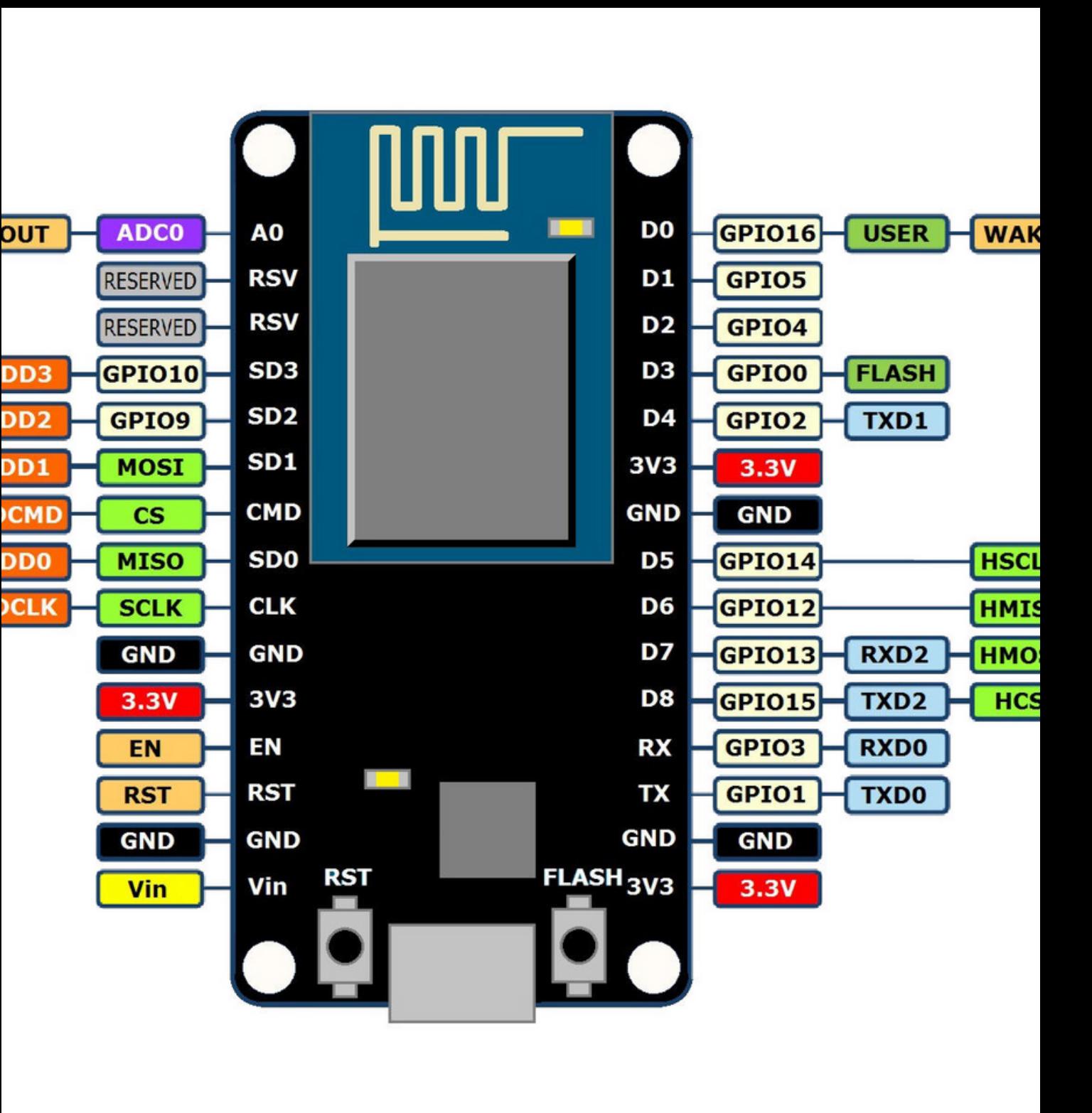
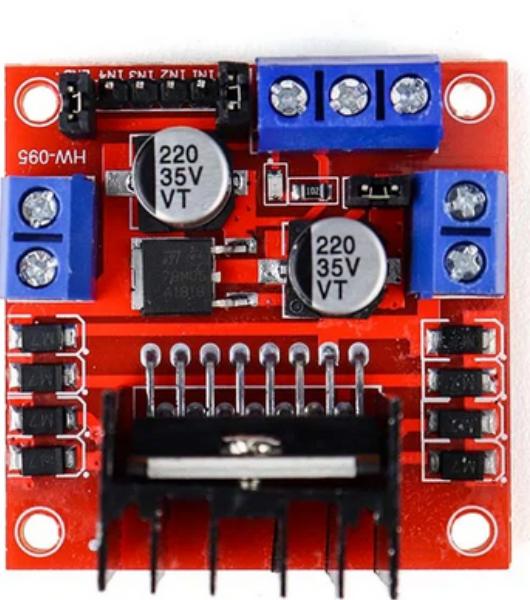
## BASE OF ROBOT

- Metal Chassis
- Encoder Disc and sensor
- BO motors and wheels
- Castor wheel

Tip: View the rest of the elements by searching `element set code1` on the Elements tab of the left-side object panel.

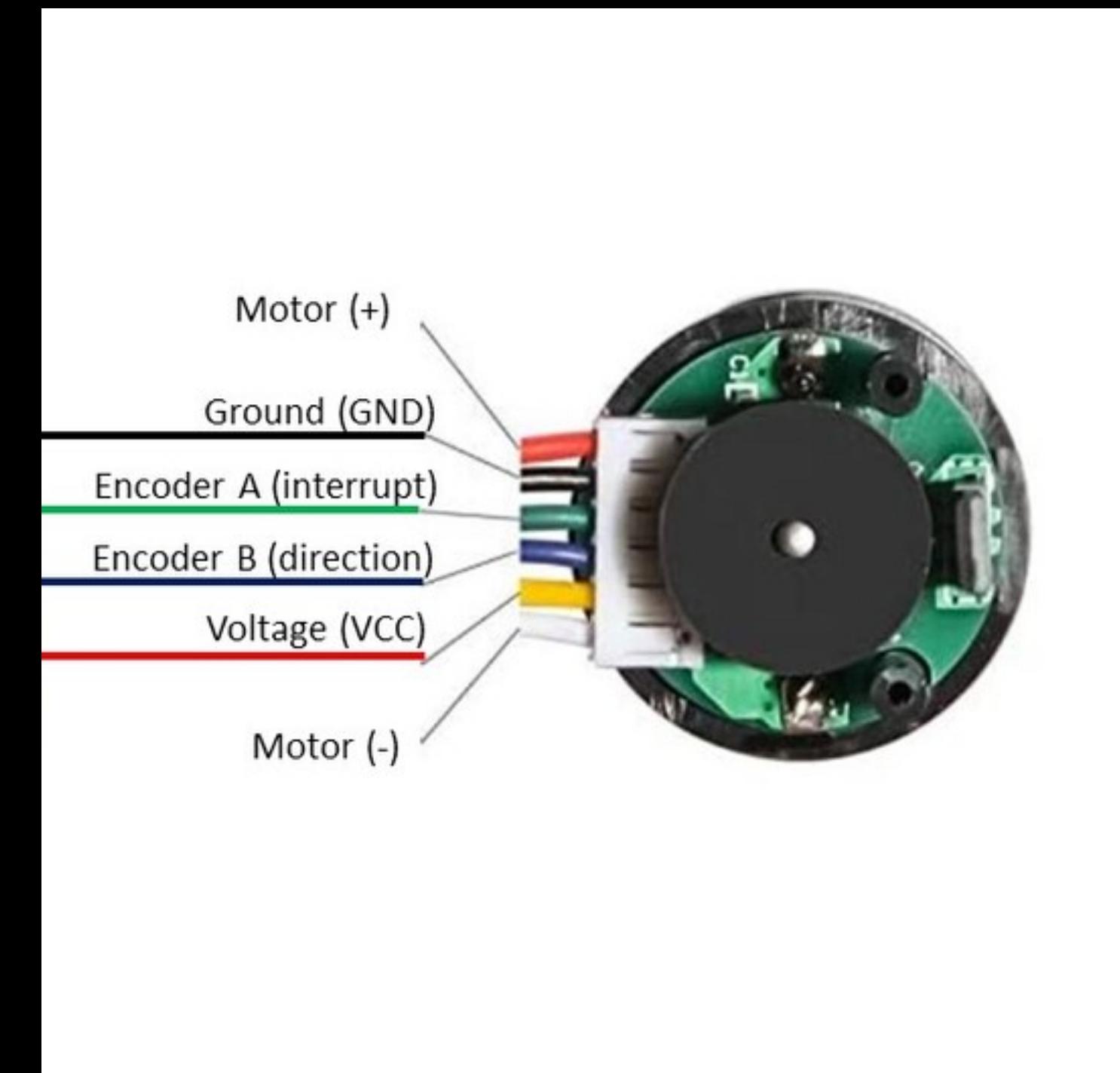
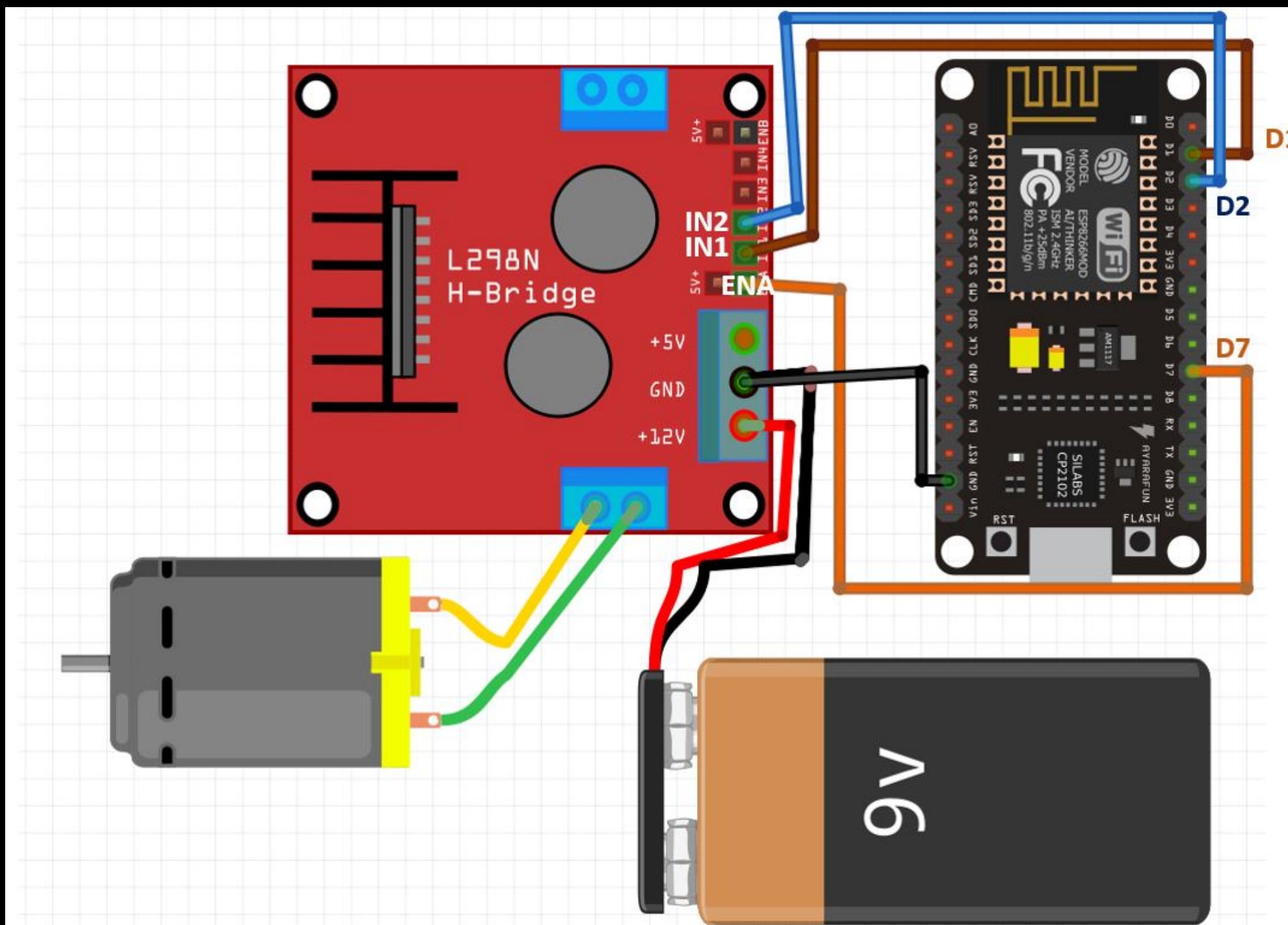
# MAIN COMPONENTS

- NodeMCU ESP8266
- Motor Driver L298N
- Rechargeable Batteries



Tip: View the rest of the elements by searching `element set code1` on the Elements tab of the left-side object panel.

# HOW TO CONNECT?



**TIME FOR LIVE  
DEMOSTARTION**

**FEEL FREE TO  
CONTACT US**

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**ALL THE BEST  
FOR YOUR EVENT!!**

