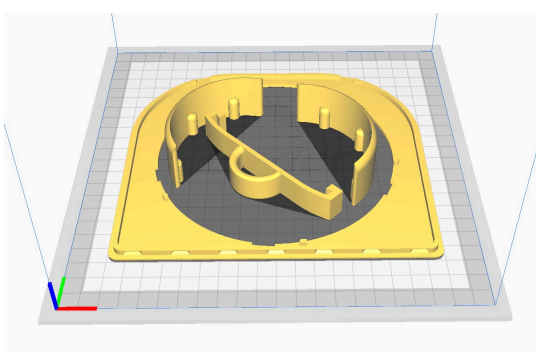
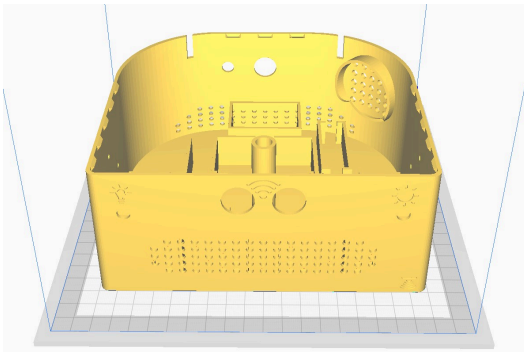
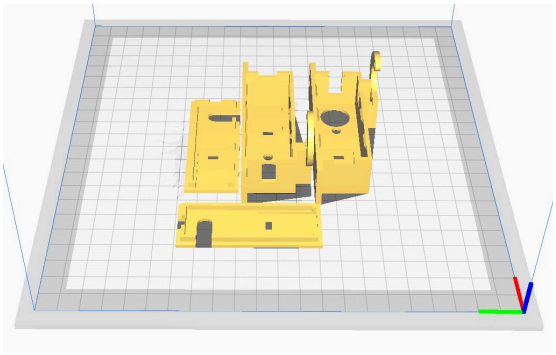
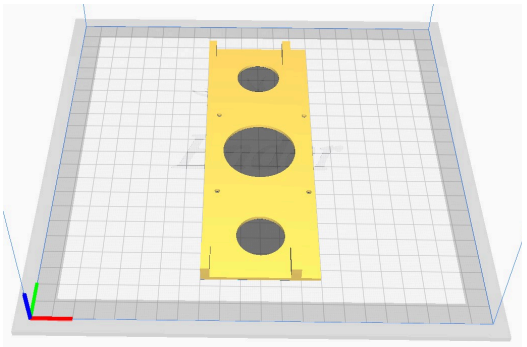
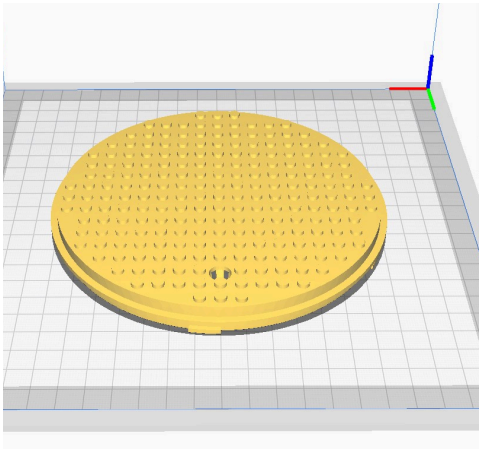
3D Print Orientation



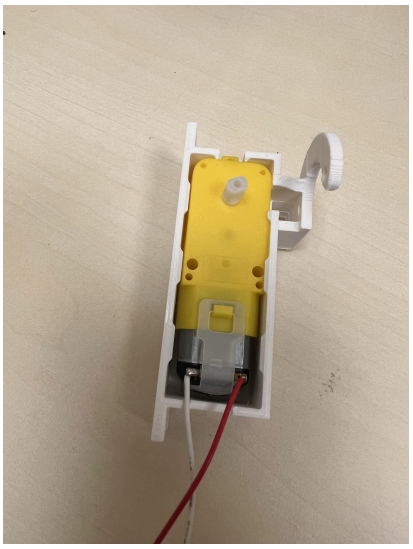


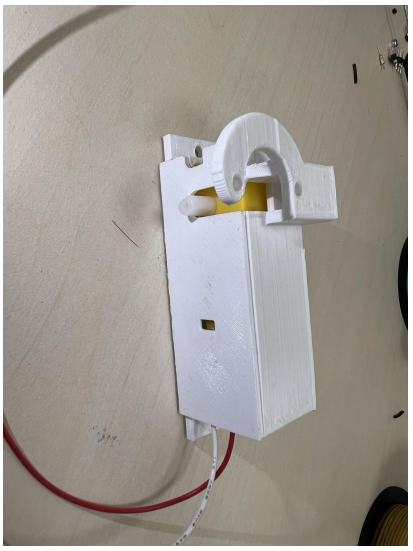


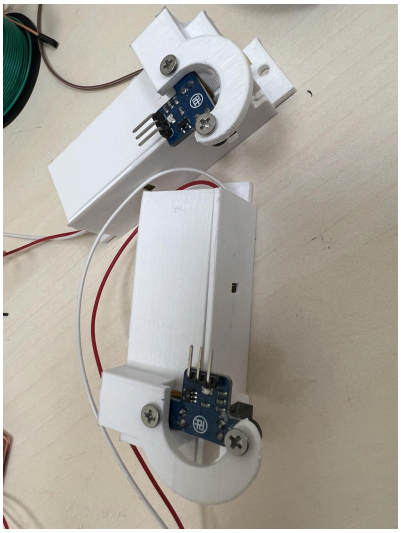


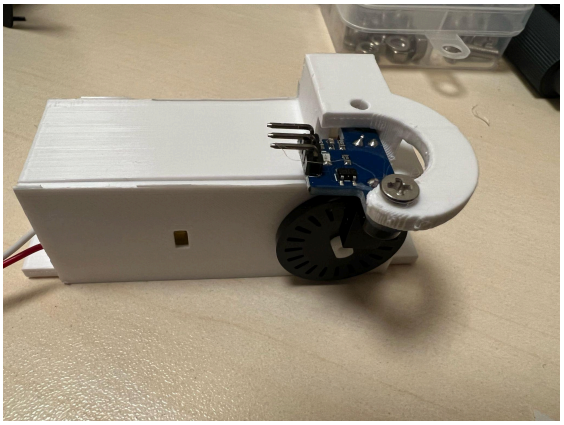


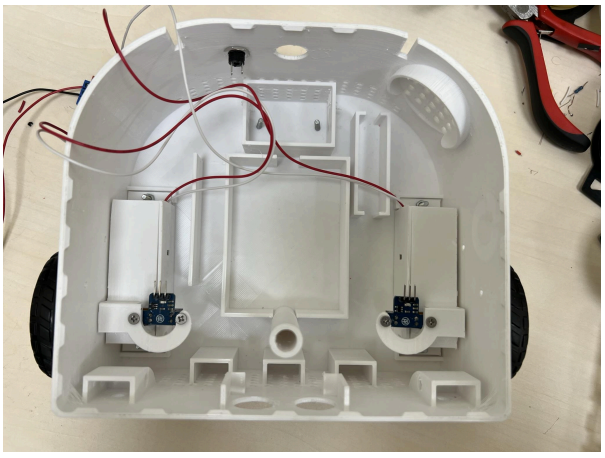
Motors and Odometers





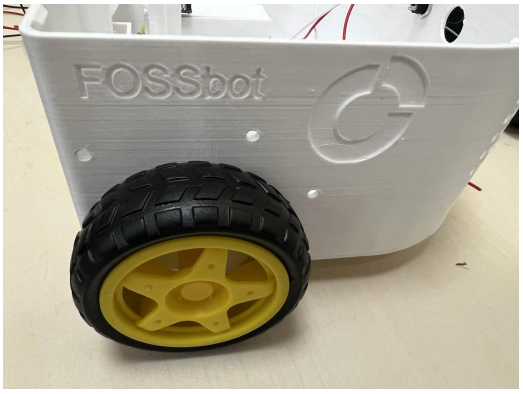




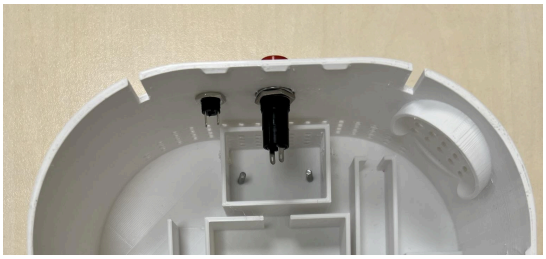


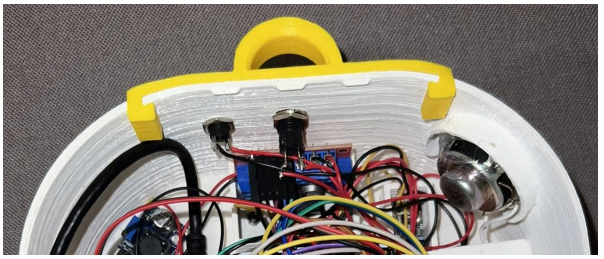
H-Bridge, Step-Down, Battery holder and BMS

Wheels and Caster



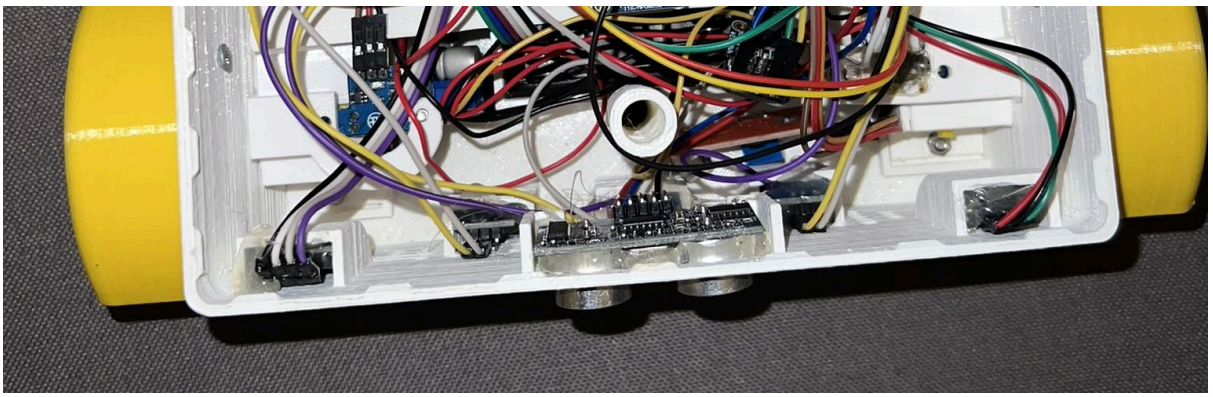
On/OFF Switch, Speaker, and charging port

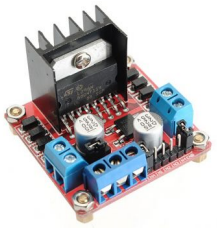


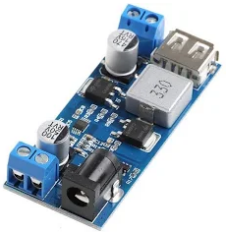
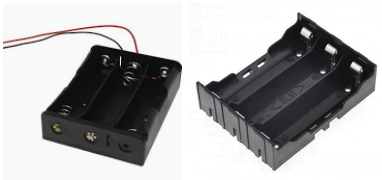


IR Sensors

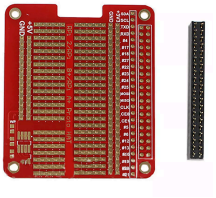
Ultrasonic, Photoresistor, and RGB led



Parts Name	Photo	Quantity
PETG White		1
Rubber Wheel 66x26mm - Yellow		2
DC Gear Motor TT - 120 RPM (Metal Dual Shaft)		2
Coded Disc Encoder		2
Dual Motor Driver Module L298N		1
Photo Interrupter Sensor		2
MCP3008 - 10bit 8 channel ADC SPI		1

microSDHC 32GB		1
DC-DC Step-Down 5.2V 5A		1
DC-DC Converter Step-Down 5-35V 2A		1
Li-ion Battery Charger Protection Module 3S 10A		1
Li-ion 18650 3.6V 3400mAh		3
Batrery holder 3x18650 The second one is easier to solder		1
HC-SR04		1

IMU - MPU6050		1
Photoresistor KY-018		1
LED 5050 SMD Module RGB (Cathode)		1
WAVESHARE Ir distance sensor with analog		3
Ball Caster Metal 12mm		1
Power supply 12V 5A - Output 5.5x2.1 SN-12D500		1
DC Power Jack 5.5x2.1 - Plastic		1
Round Button Latching PBS-11B two states (On/Off)		1

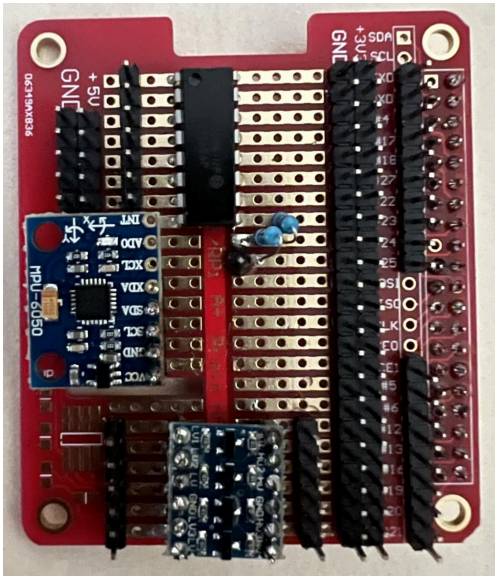
Raspberry Pi 2 Zero W		1
Proto HAT for Pi - No EEPROM		1
3K Resistor		1
1K Resistor		1
Bolt M2.5 - L5mm		2
Bolt M3 - L6mm		12
Nut M2.5 Metal		2

Nut M3 Metal		12
Loudspeaker 2W 8Ω - 50 x 17mm		1
Mono 2.5W Class D Audio Amplifier - PAM8302		1
Ribbon 40wire 20cm - Female to Female		2
Ribbon 40wire 20cm - Female to Male		1
Voice Sound Sensor - KY-038		1
Pin Header 1x40 Male 2.54 mm Black		3
Bidirectional logic bit converter		1

Circuit Schematics

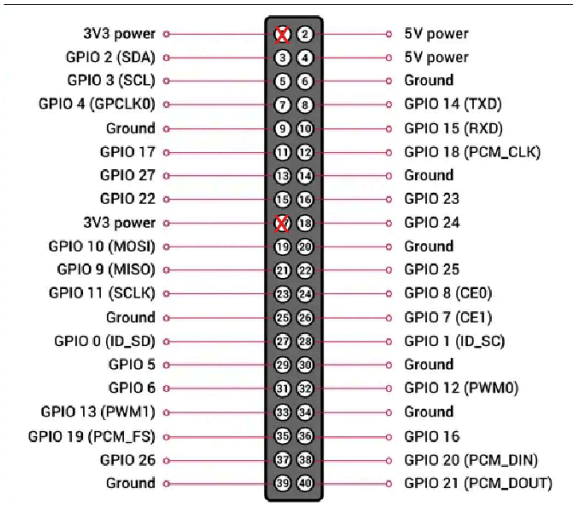
Follow the schematic from the pdf.

Tip: Solder the MPU6050, MCP3008, the Bidirectional logic bit converter, and the voltage divider (Battery sensor) on the Pi hat.

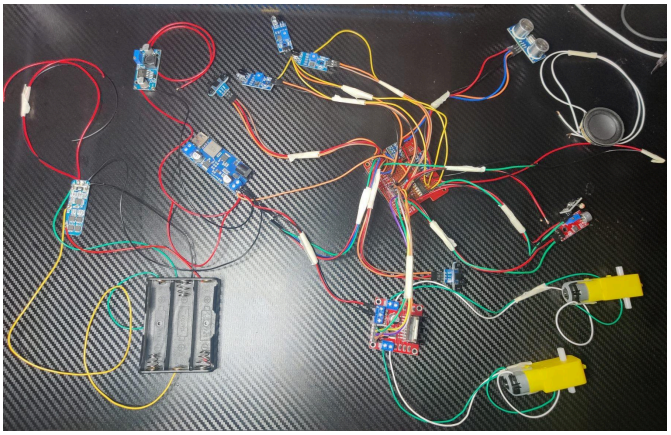


IMPORTANT!!! Before you start remove the legs of 3.3V from the 40-pin header of the Raspberry Pi hat.

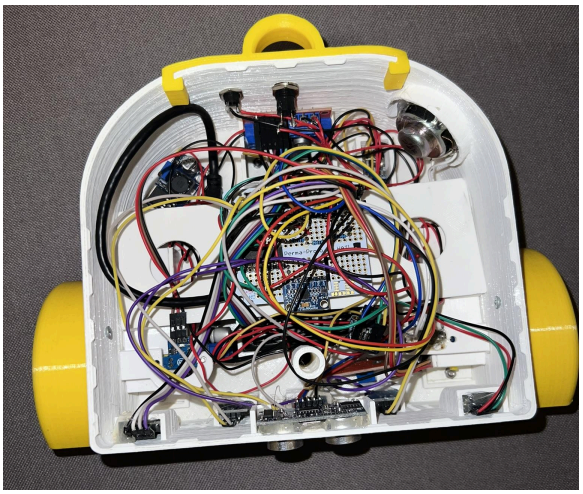
Remove the pins with x



Prepare the electronics



Final interior



Final robot