TEACHING SHEET PEDRO – N°1
“Assembling the Pedro Robot”

(Duration: 2h – Difficulty: ★)

🎯 Learning Objective

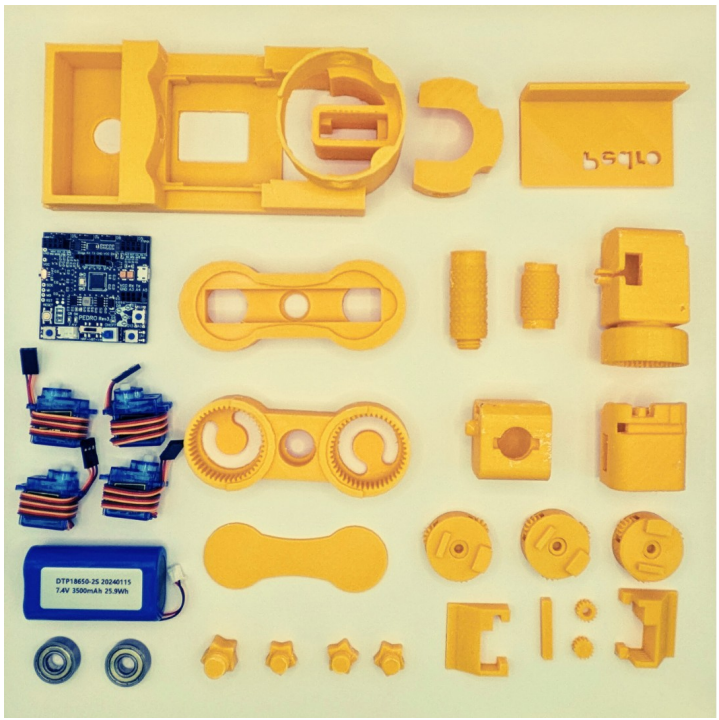
Discover the Pedro robot, understand its basic operation, and explore its different control modes.

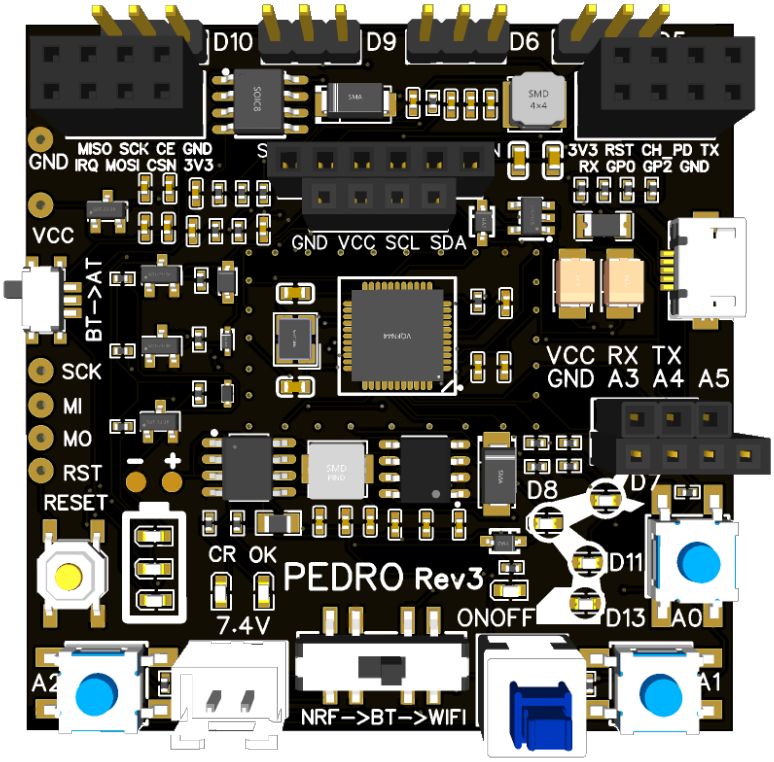
Students will learn:

- Basic concepts of robotics (programming, embedded systems, planetary gear systems)
- How a 3D printer works
- How to identify the components of a robot
- How to assemble a robot

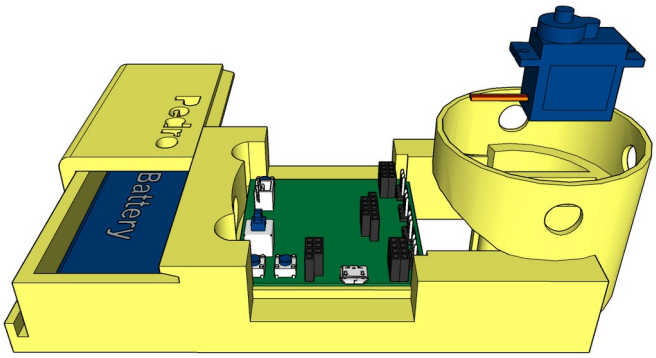
🛠️ Required Materials

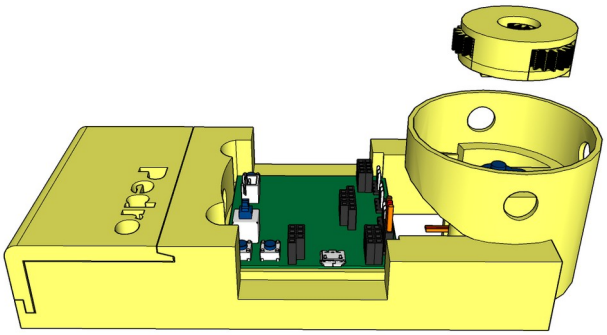
- All Pedro robot parts printed in 3D
- 2 ball bearings
- 4 continuous rotation (360°) servomotors
- 1 micro USB cable
- 7.4V battery
- Pedro Rev3 Electronic Board
- PC (Windows, Linux, or OS X) with Arduino IDE installed





Step 1 – Base

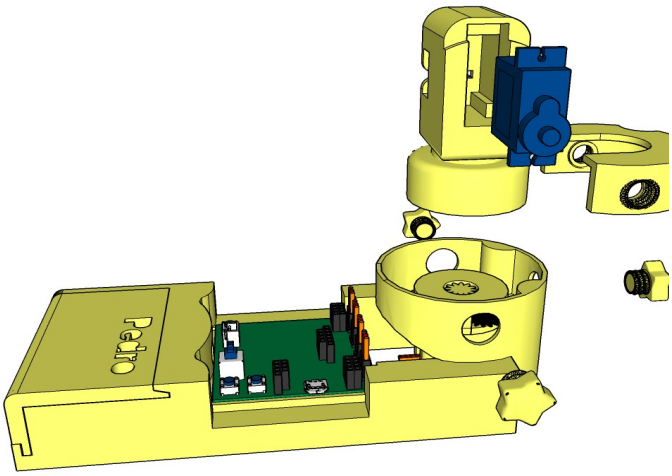


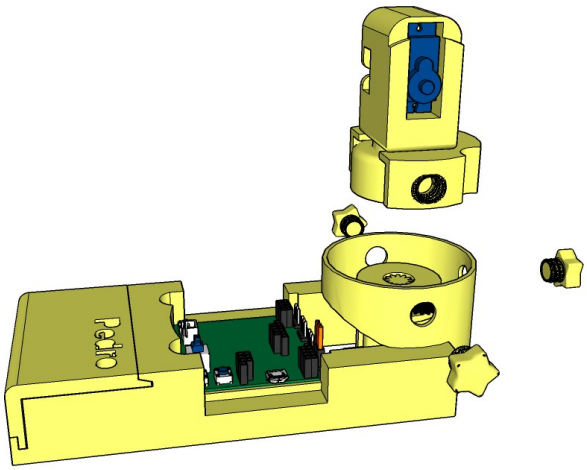


- Place the battery in the base and close the cover
- Place the electronic board in the middle of the base
- Connect the battery to the board
- Position the first servomotor in its slot
  (the cable should be oriented toward the board)

- Connect the servomotor to the board pins (Pin D5)
- Place the first planetary gear system on top of the servo
- Then place the gear in the center and press lightly so it attaches to the servo head
- Turn on the board (On/Off button), the gear system should rotate in both directions

Step 2 – Shoulder





- Insert the second servomotor into the robot’s shoulder
- The servomotor should be oriented with the cable facing downward
- Connect the shoulder support to the shoulder
- Place the entire shoulder assembly on top of the planetary gear system

- Press until the shoulder is secured onto the planetary gear system
- Gently rotate the shoulder left and right to check the planetary gear rotation
- Screw the base with the 3 screws

Work in progress ...