

Dyson School of Design Engineering

DE2 Electronics 2

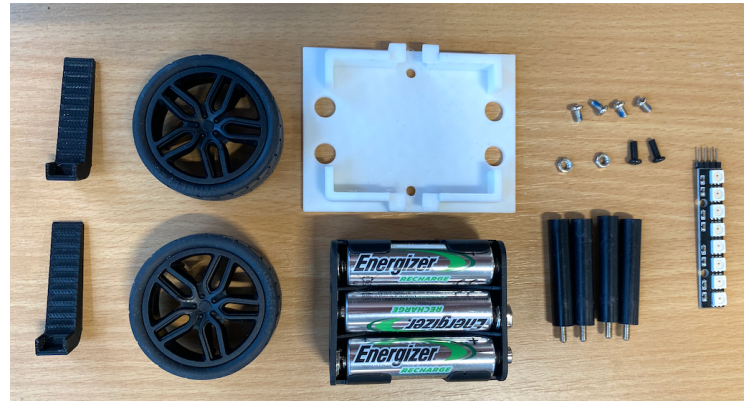
## Instruction to Build the mini-Segway

(webpage: [http://www.ee.ic.ac.uk/pcheung/teaching/DE2\\_EE/](http://www.ee.ic.ac.uk/pcheung/teaching/DE2_EE/))

### WHAT YOU NEED?

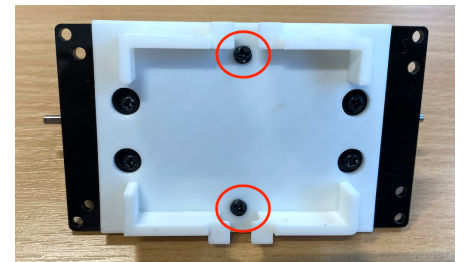
Here are the additional materials you need. DO NOT TAKE MORE THAN YOU REQUIRE.

- 2 off M3 10mm machine screws
- 4 off M3 6mm machine screws
- 2 off M3 hex nuts
- 4 off 40mm PCB standoffs
- 1 off 3D printed white battery holder
- 1 off AA battery case (6 units)
- 6 off AA rechargeable nickel-metal hydride (NiMH) batteries (1.2V)
- 2 off rubber wheels
- 2 off 3D printed stabilizers
- 1 off neopixel strip



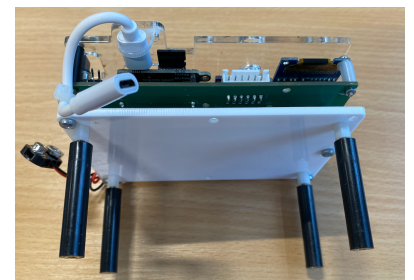
### STEP 1: INSTALL BATTERY HOLDER TO WHEEL CHASIS

- Make sure that all the screws of the motor assembly are tight.
- Use the black 2 M3 x 10mm screws and hex nuts, secure the white battery holder to the motor assembly as shown:



### STEP 2: INSTALL THE STANDOFFS

- Screw the four standoffs to the PyBench board as shown. Do not over-tighten.
- Join the PyBench board with the motor assembly using four M3 x 0.6mm screws as shown.



### STEP 3: ADD WHEELS AND STABILIZER

- Install two wheels to the motor.
- Insert the two stabilizers onto the battery holder.

Your mini-Segway is now fully constructed.

