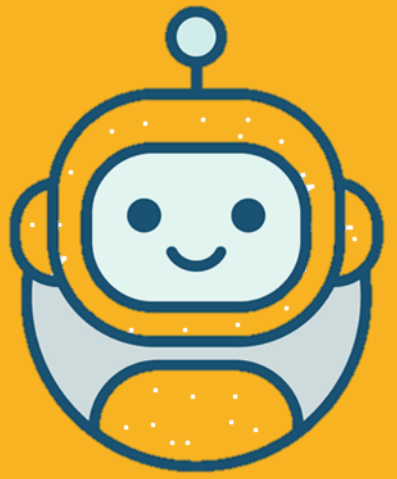
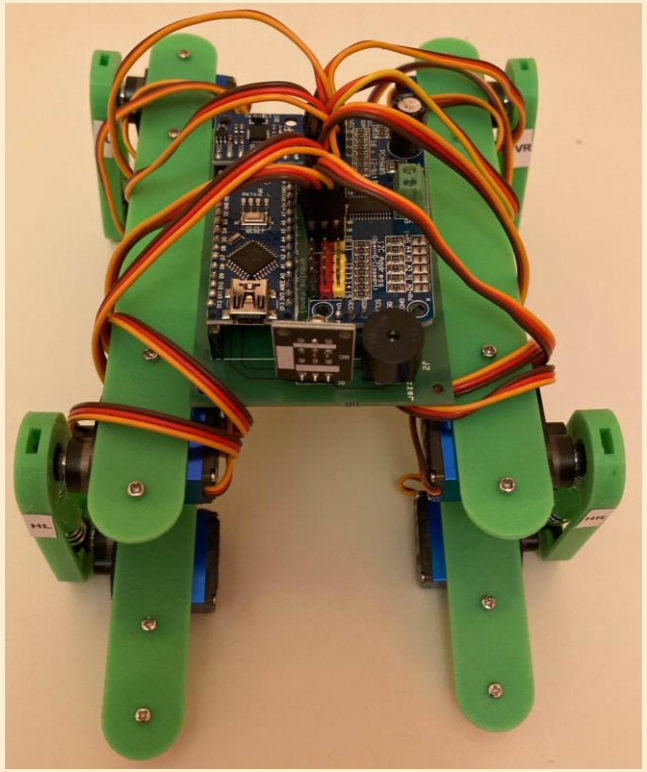
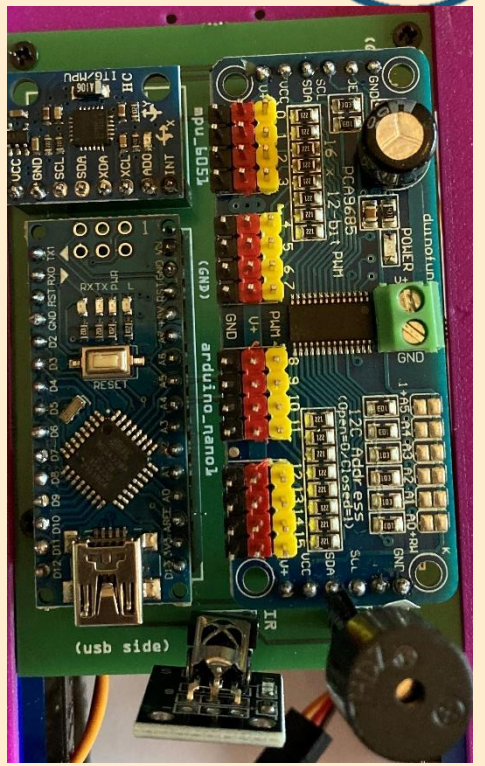
EASY ROBOTICS FORMATION FOR MAKERS & KIDS

ROBO FORM



MINICAT ASSEMBLY OVERVIEW

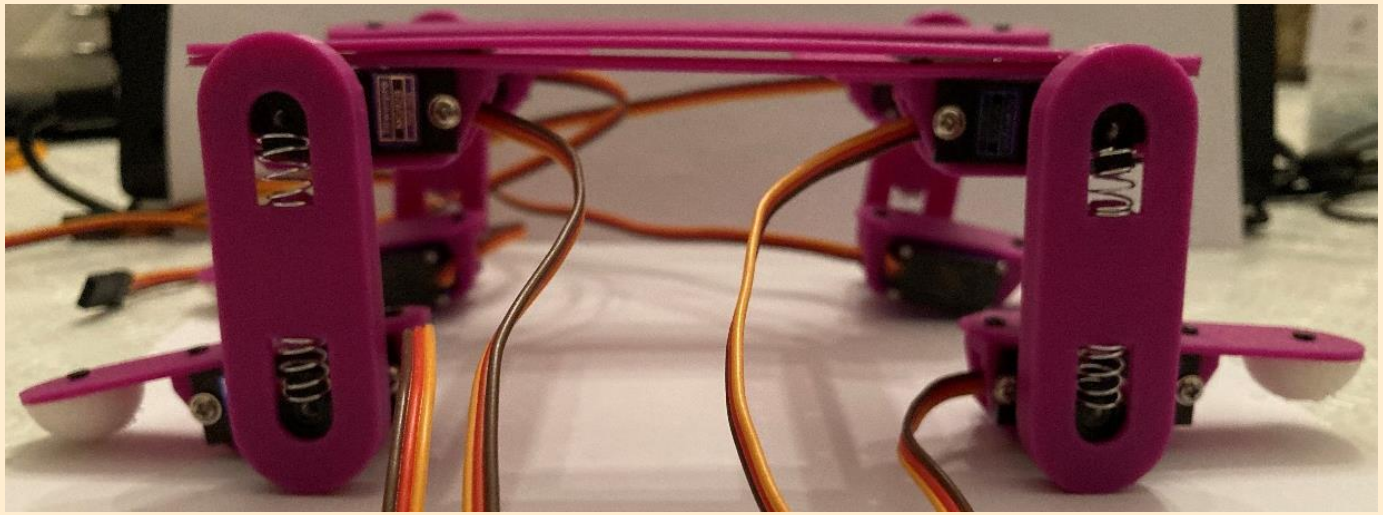




Required:

- **3D Parts to order/print:** https://github.com/alex8411/minicat/tree/main/3D_printing/STL
- **Custom PCB to order/produce:** https://github.com/alex8411/minicat/tree/main/PCB
- **Software:** https://github.com/alex8411/minicat/tree/main/Software/minicat_basic

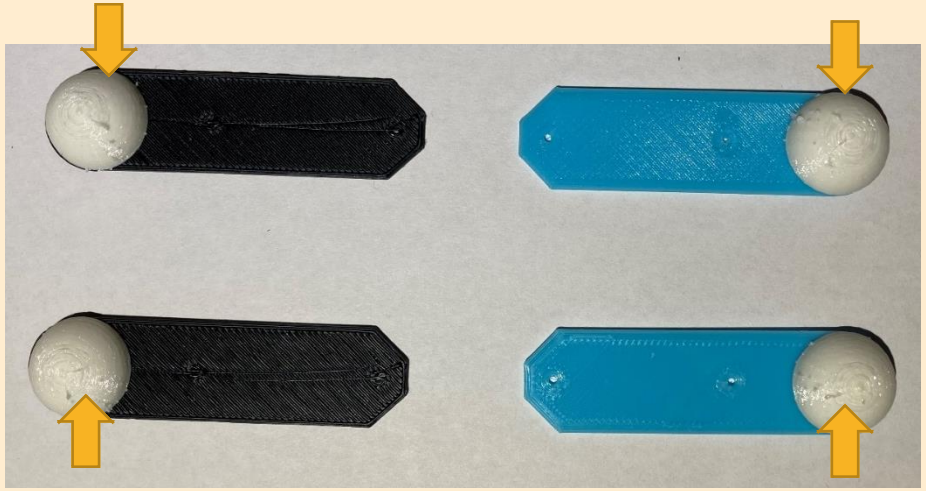
MINICAT ASSEMBLY



Prerequisites :

- Flat head and Cross screwdrivers
- 3D printed parts: STL
- Screws (M2): 800 Stück M2 schwarzer Kohlenstoffstahl mit Senkkopf und flachem Kreuzkopf, selbstschneidende **Schrauben**
- Springs (8,5x10): McDrill Jeu de 246 ressorts de compression

MINICAT ASSEMBLY
STEP1.1: FEET



3D Parts

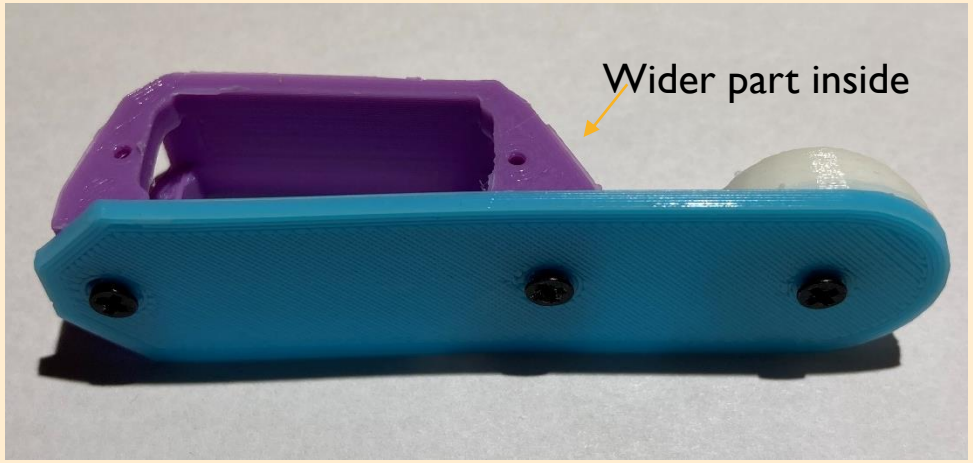
- 3__all_miniToe_rubber.stl
- 9__1_miniShank_Batch1.stl
- 9__1_miniShank_Batch2.stl
- 9__1_miniShank_Batch3.stl
- 9__1_miniShank_Batch4.stl

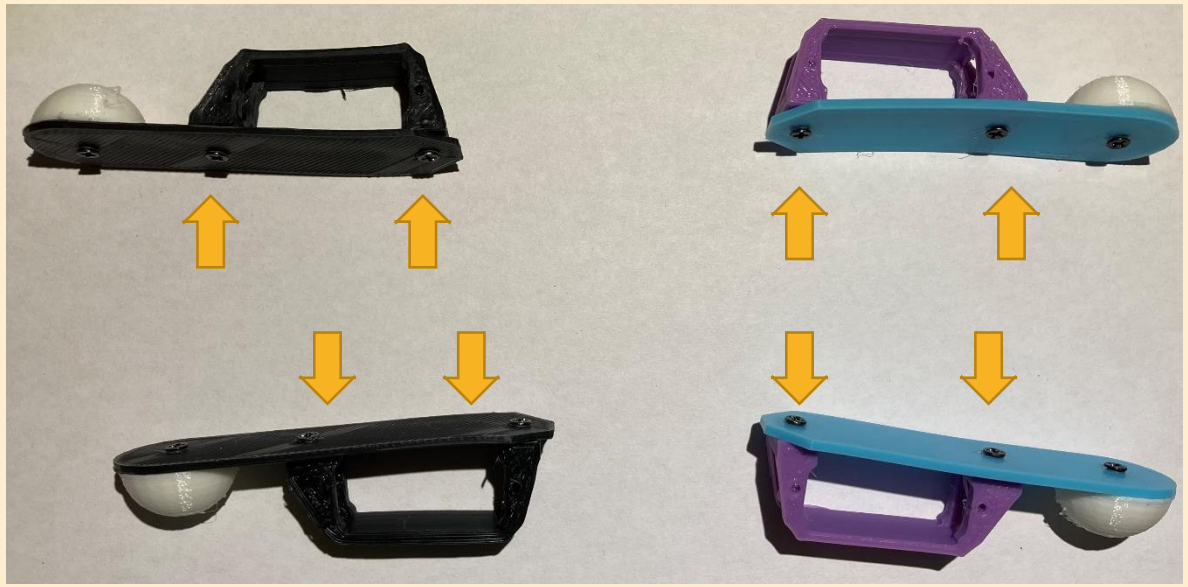
4x Screws M2*5

- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP1.2: FEET & SERVO-HOLDERS

Hint:
Pay attention that the wider part of the servo holder is at the inner part





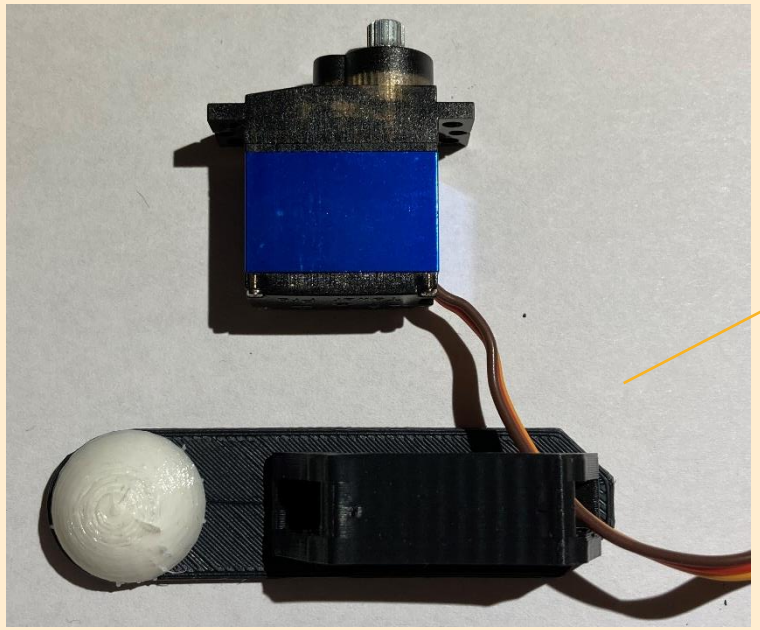
3D Parts

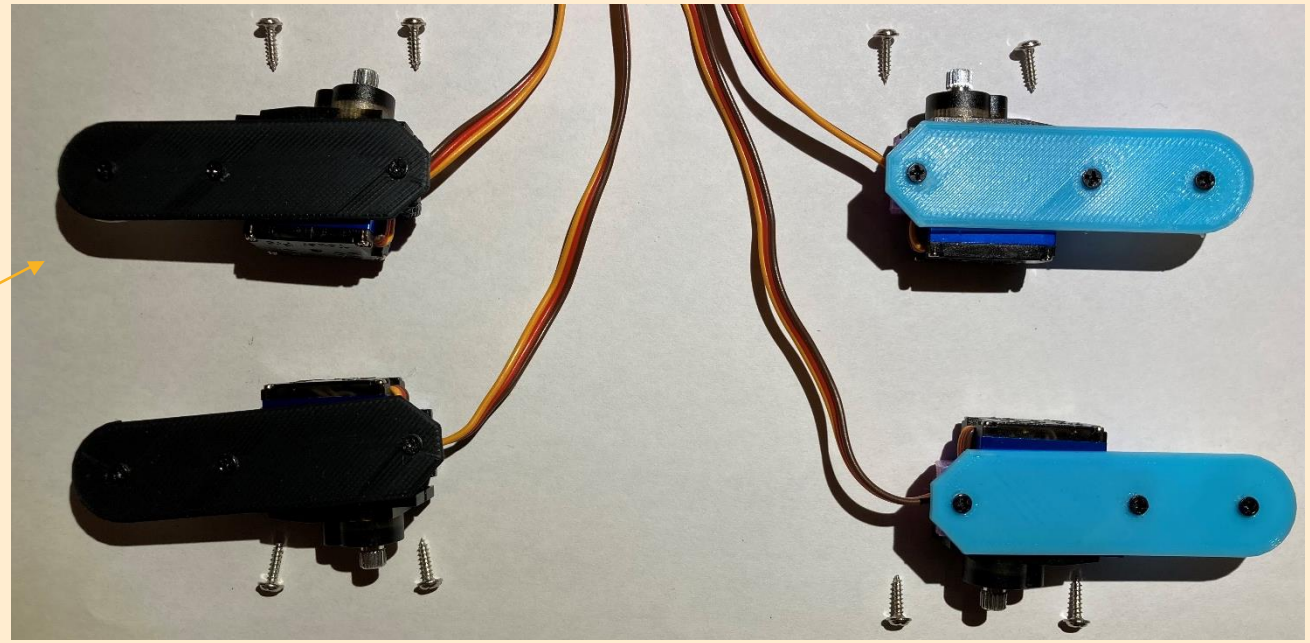
- 2__all_miniServoHolder_Batch1.stl

8x Screws M2*5

- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP1.3: FEET, SERVO-HOLDERS & SERVOS





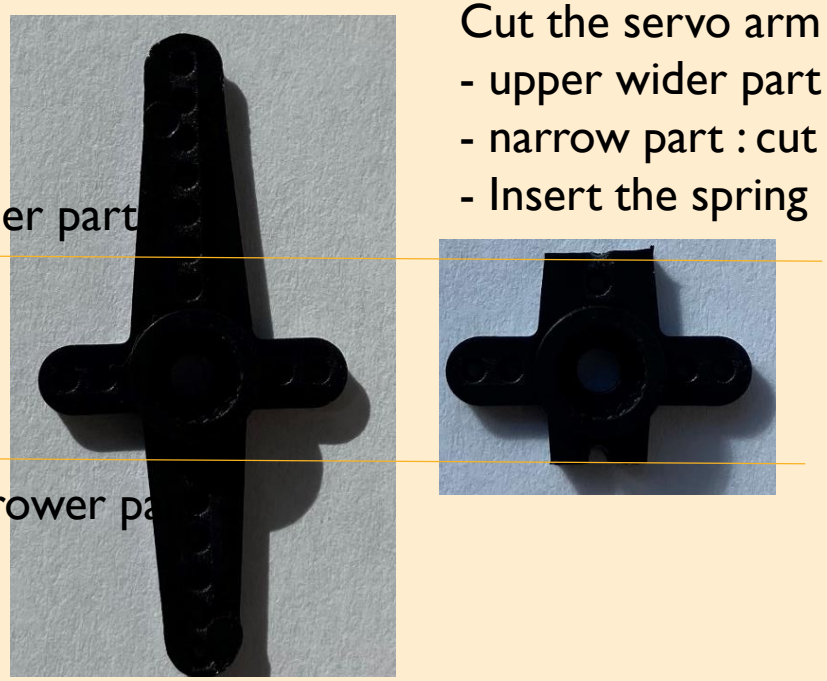
- 8x Screws provided with the servomotors

- 4x Servomotors

- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP2.1: THIGHS, SERVO-ARMS, SPRINGS

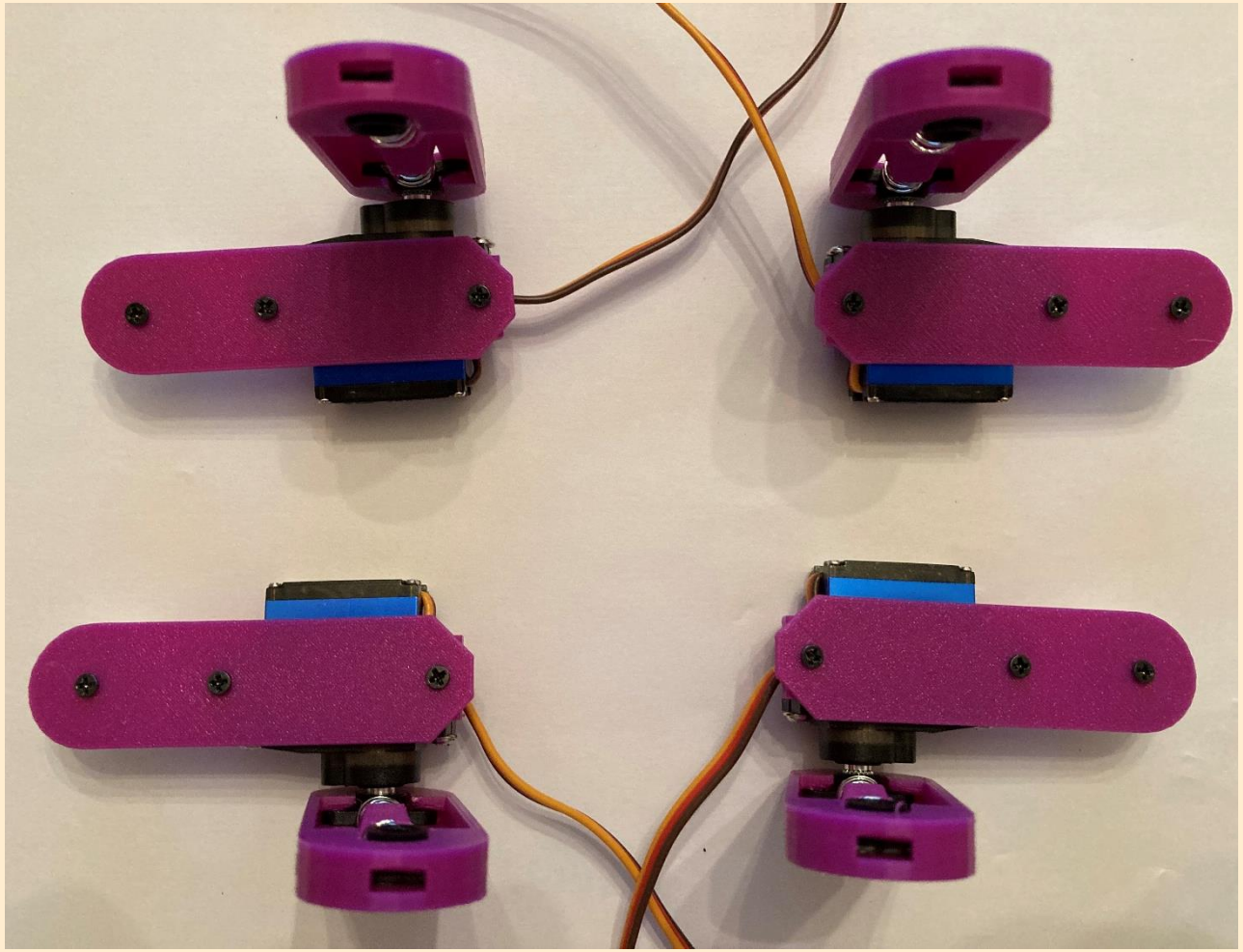
Hint:
Cut the servo arm as following:
- upper wider part : cut in the middle of 2d hole
- narrow part : cut in the middle of 1st hole
- Insert the spring



3D Parts
- [1__all_miniThigh.stl]

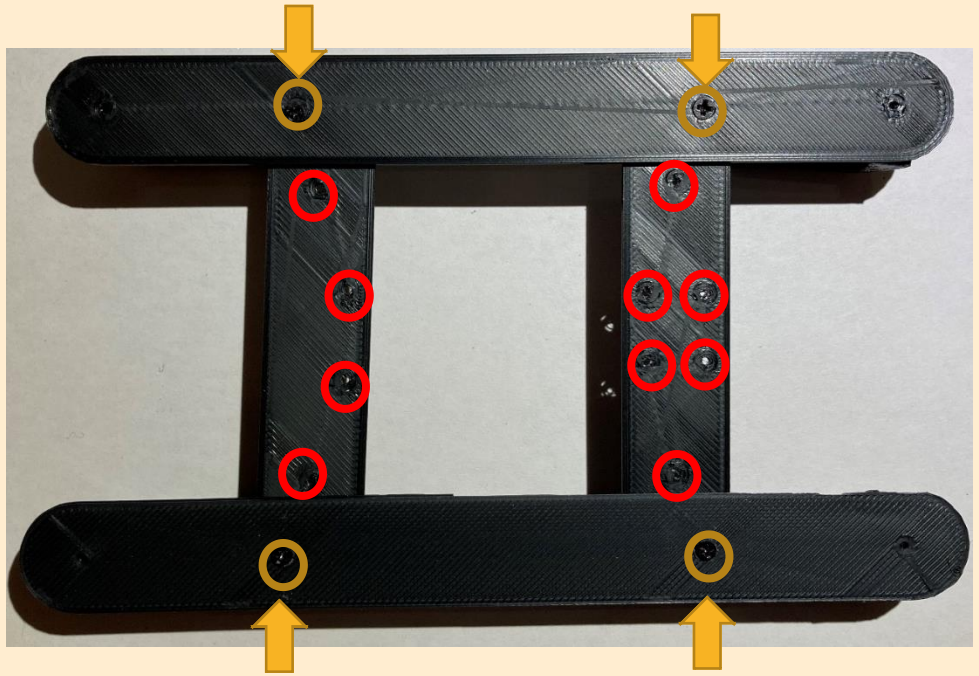
8x Servo arms provided w/ the servomotors
8x Springs 6,5x10mm
- „McDrill“ https://www.amazon.fr/gp/product/B00GN3BJT4/ref=ppx_yo_dt_b_search_asin_image?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP2.2: THIGHS & FEET



Hint:
Connect the thighs to the feets
as shown on the picture
without screwing them

MINICAT ASSEMBLY
STEP3.1: BODY STRUCTURE



Hint:
Prepare the M2*6 screws but only screw them a bit in preparation for Step 2.2 (Servo holder assembly)

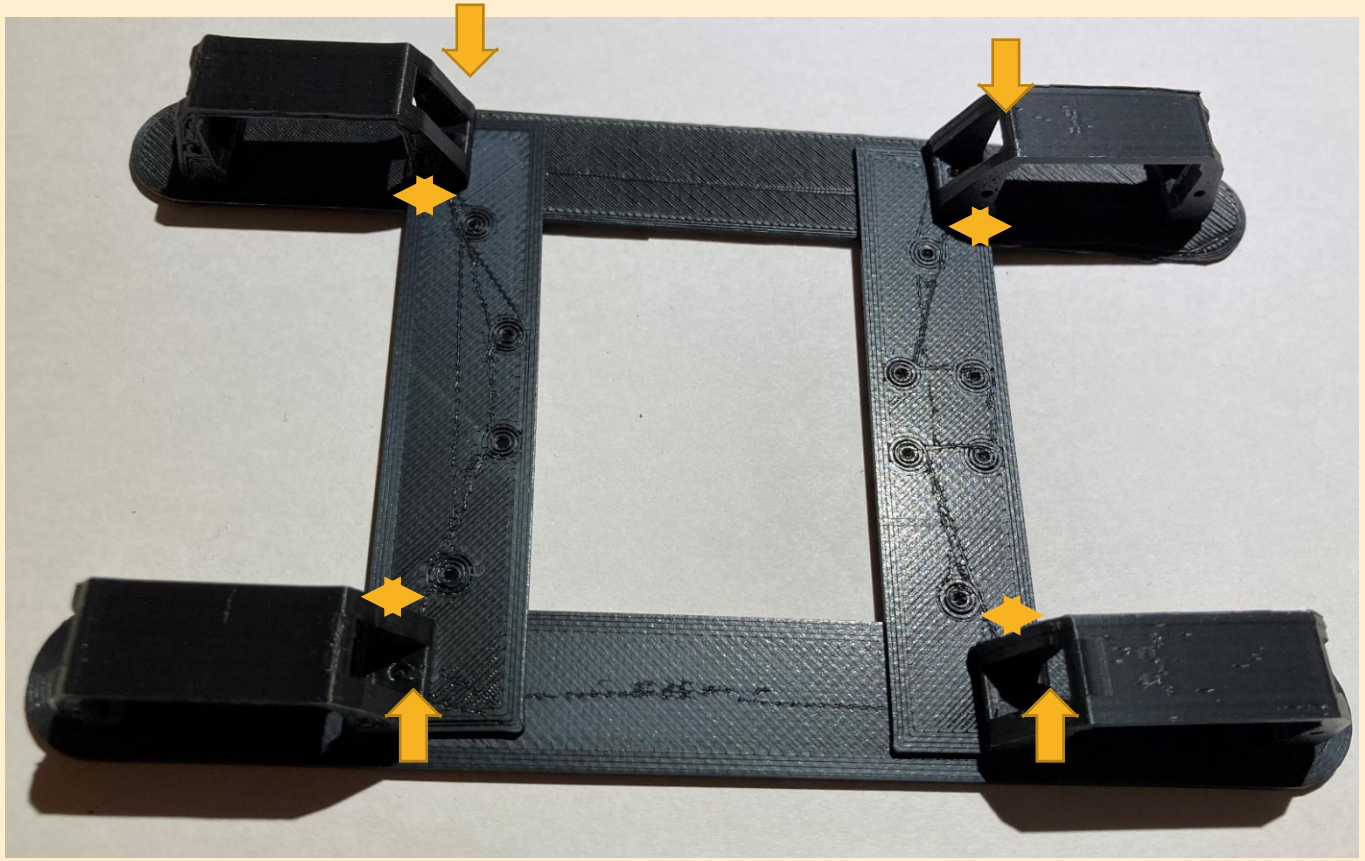
3D Parts

- 8__1_miniBodyA_Batch1.stl
- 8__1_miniBodyA_Batch2.stl
- 10__Body_B_Back.stl
- 11__Body_B_Front.stl

4x Screws M2*6

- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP3.2: BODY & SERVO-HOLDERS



Hint:

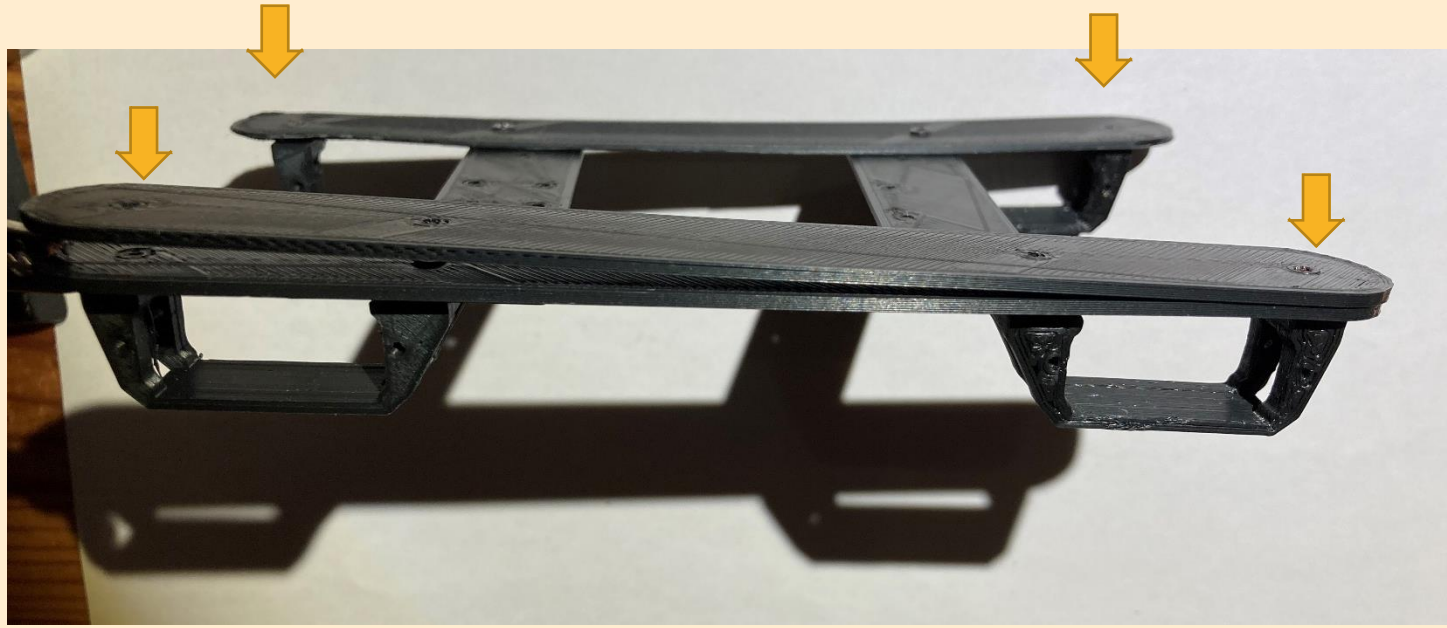
- Now screw completely the M2*6 screws to make sure the 4x Servo holders are fixed at their internal side

- Pay attention that the wider part of the servo holder is at the inner part

3D Parts

- 2__all_miniServoHolder_Batch2.stl

MINICAT ASSEMBLY
STEP3.3: BODY TOP & SERVO-HOLDERS

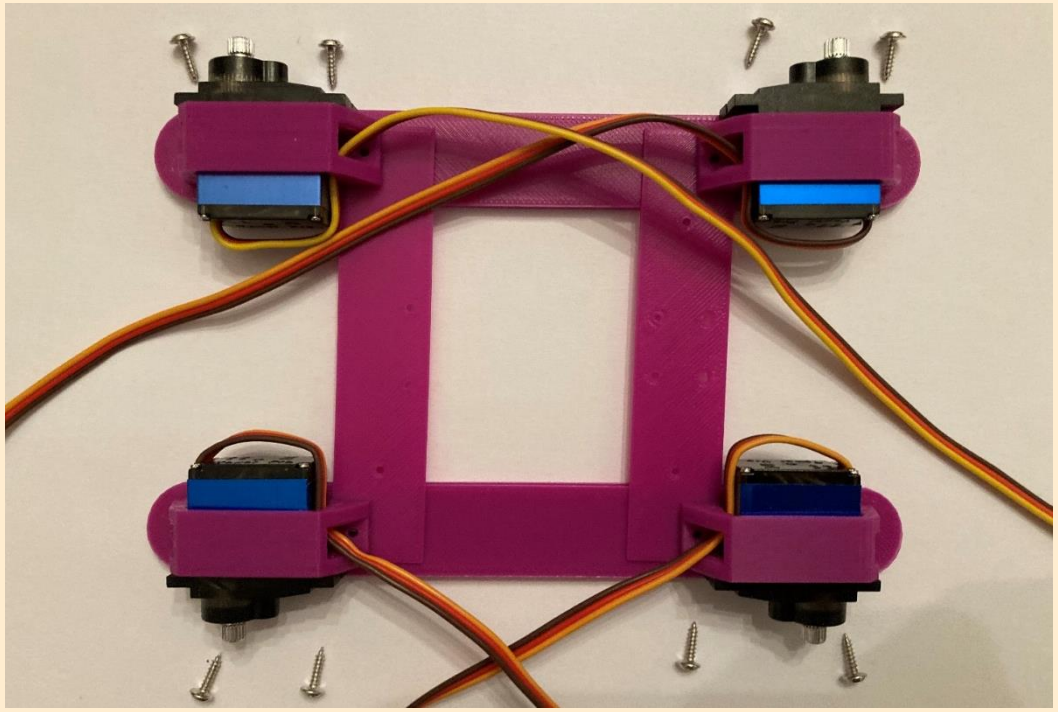


Hint:
Now you can screw at the outer side of the 4x servo holders by adding the 2x additional BodyA structures on top of the 2x existing ones

3D Parts
- 8__1_miniBodyA_Batch3.stl
- 8__1_miniBodyA_Batch4.stl

4x Screws M2*7
- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP3.4: BODY & SERVO-MOTORS

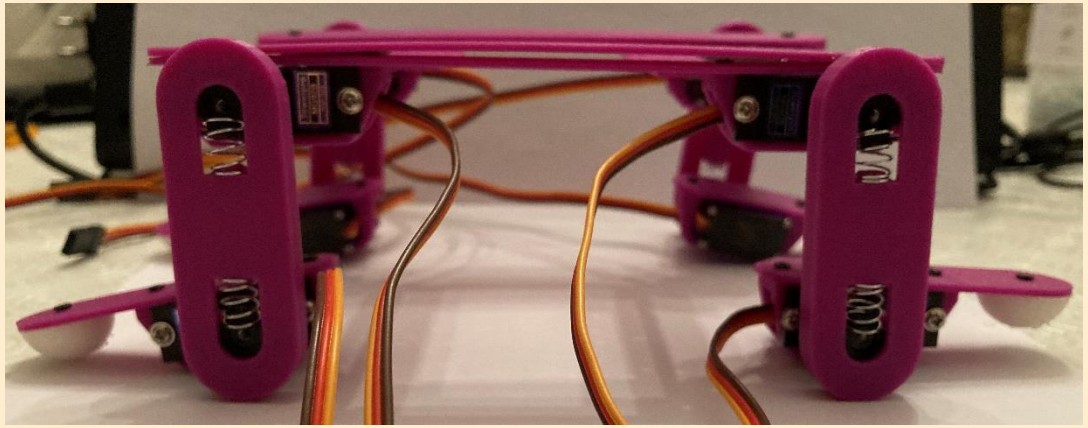


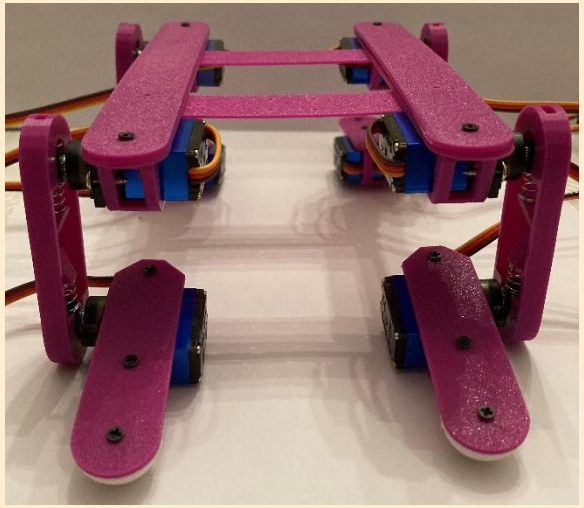
Hint:
Pay attention to put the servomotors axis at the outside

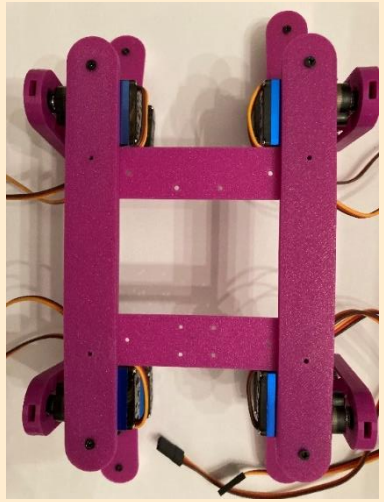
- 4x Servomotors
https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

- 8x Screws provided with the servomotors
https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP3.5: BODY & LEGS

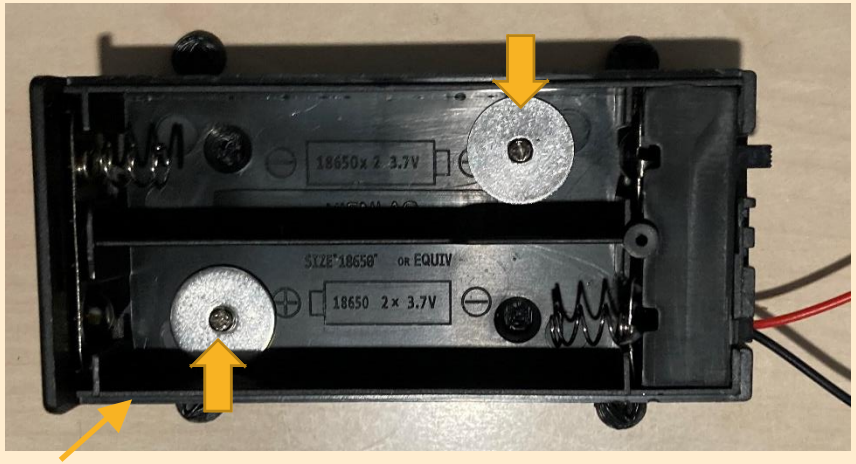




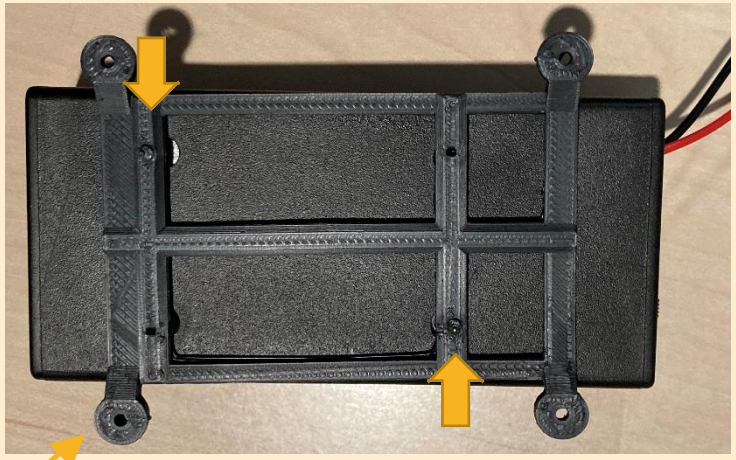


Hint:
connect only the Legs to the body servomotors axis **without screwing them**
(as calibration still needed later, esp. you do not know yet where the servo +/- 0 angle is)

MINICAT ASSEMBLY
STEP4.1: BATTERIES HOLDER & SUPPORT



Batteries holder



Batteries holder support

3D Parts

- 4__Battery_holder_FINAL_STL.stl

1x 18650 batteries holder with case :

- https://www.aliexpress.com/item/32901150833.html?spm=a2g0s.9042311.0.0.27424c4dfSUBPq

2x Screws M2*8

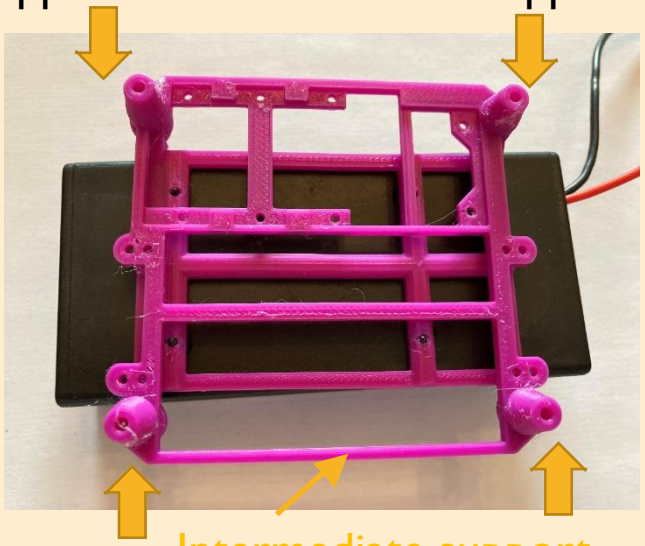
- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

2x Gasket M3 (13 outside diameter)

MINICAT ASSEMBLY
STEP4.2: BATTERIES HOLDER & BODY

Hint:
1- Screw the 4x M2*7 screws first in the batteries holder support

Hint:
2- Screw the 4x M2*7 screws through the batteries holder support and intermediate support



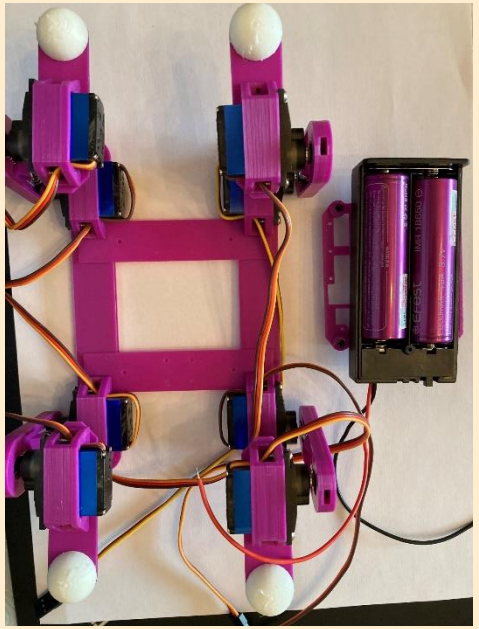
4x Screws M2*7

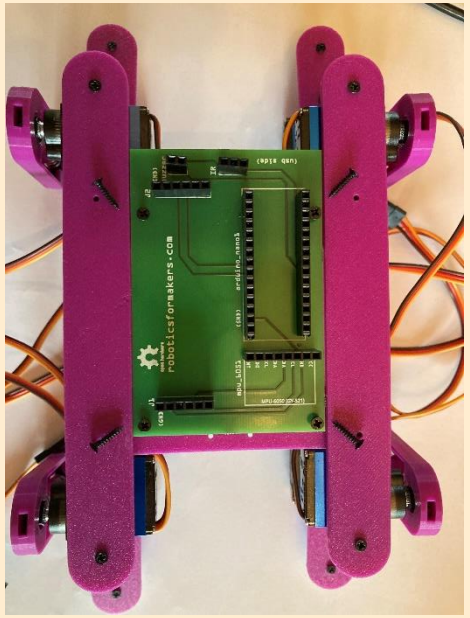
- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

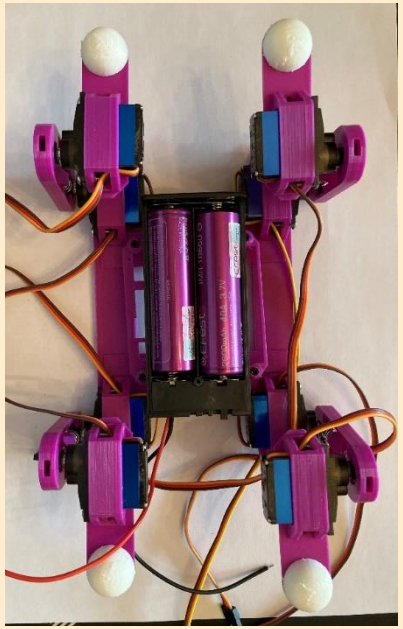
Support between battery holder support and body structure

- 5__miniCircuit.stl

MINICAT ASSEMBLY
STEP4.3: BATTERIES HOLDER & BODY & PCB





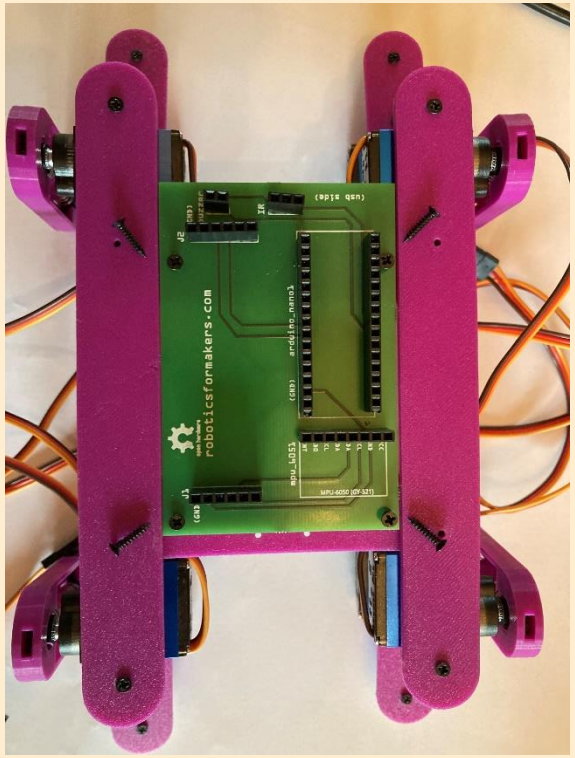


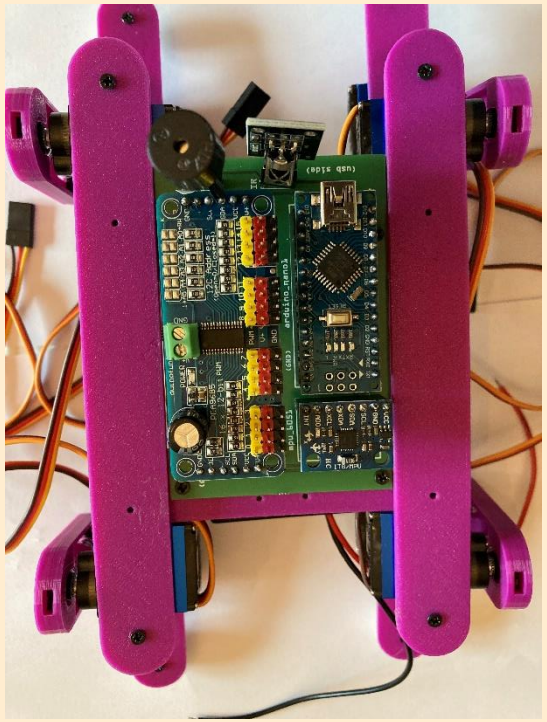
Hint:
- the 4x M2x**10** go
through the PCB first
AND
then through
the intermediate support part

Electronic Parts
- MiniCat_2.0_PCB_1_0.fzz

4x Screws M2*10
- https://www.amazon.de/gp/product/B07RYLM9N2/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1

MINICAT ASSEMBLY
STEP5: PCB & ELECTRONIC MODULES

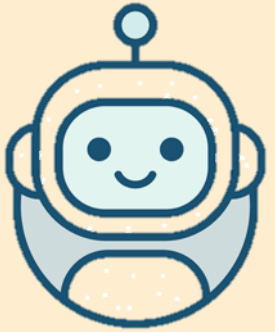




Electronic Parts

- MiniCat_2.0_PCB_1_0.fzz

SOFTWARE INTEGRATION
STEP6: FLASH SOFTWARE & PLAY !



Software:

- minicat_basic