Zumo Robot - UWB Build Guide

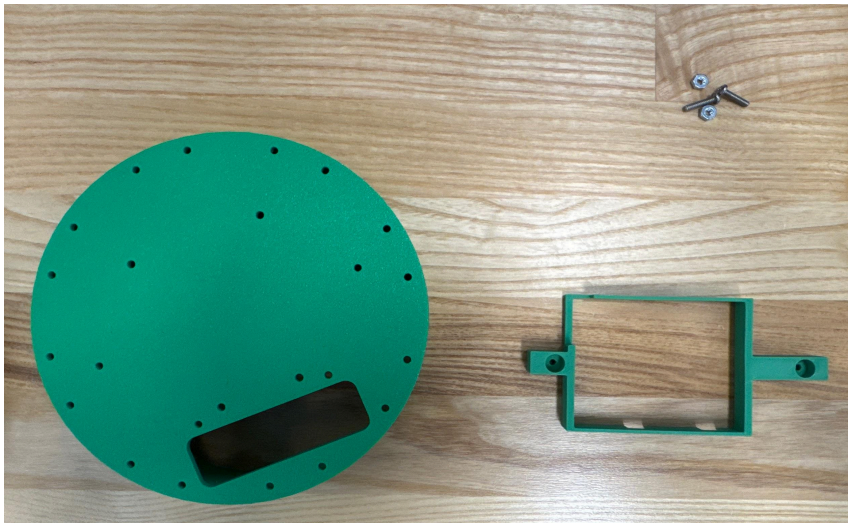
Screws Needed

- Any standard M3 screws should fit.
- For the rotating camera mount, use longer M3 screws for easier installation, and secure them with a nut at the end.
- Pointed M3 screws are recommended for:
    - ❖ Attaching the UWB case
    - ❖ Mounting the UWB to the plate
    - ❖ Securing the camera mount to the UWB case

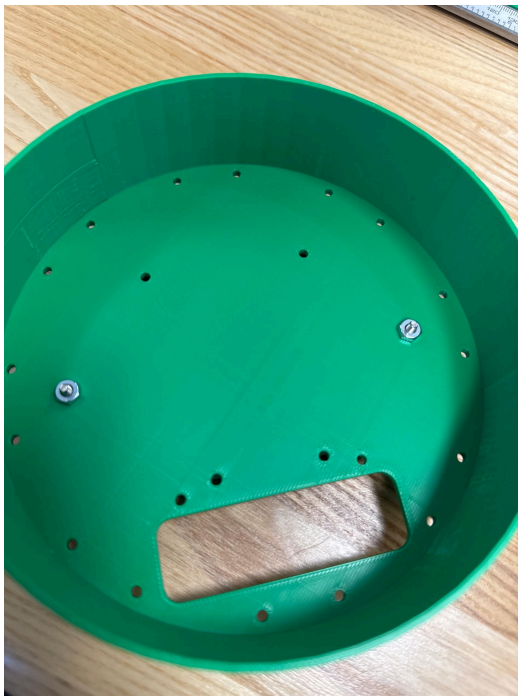
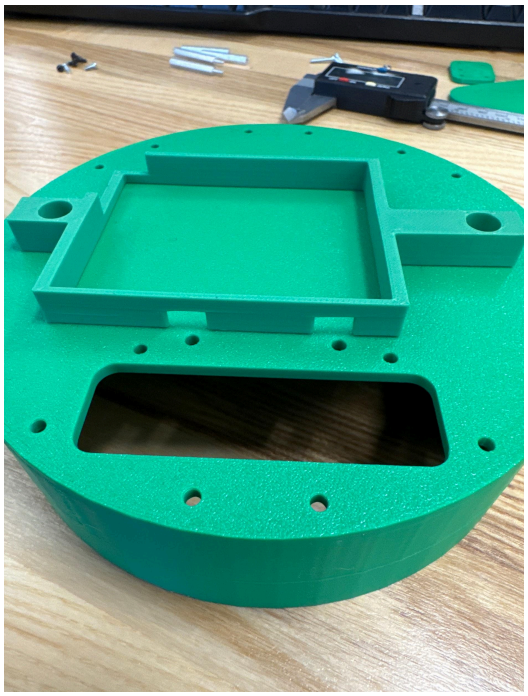
Build Steps:

1. Mount the Raspberry Pi Holder

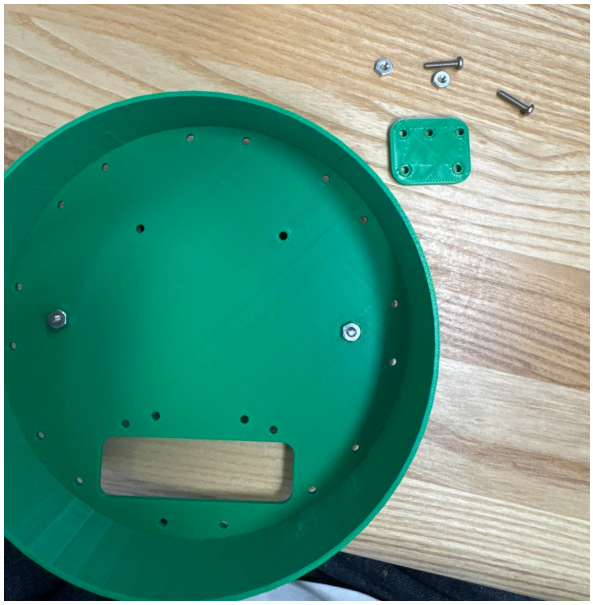
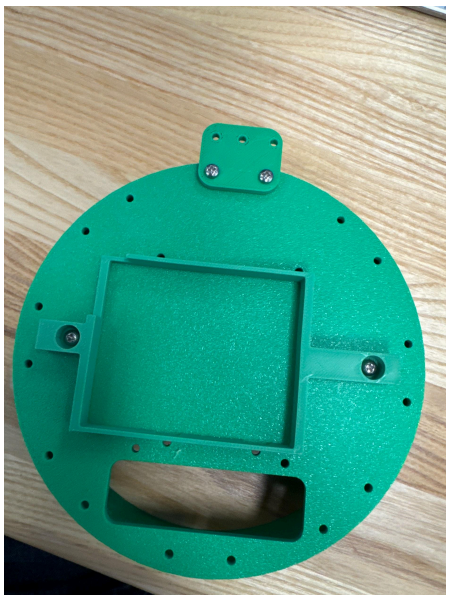
Mount the Raspberry Pi holder onto the Zumo robot's circular body kit.
Use long M3 screws and nuts to secure it. (Both thick or thin screws should work.

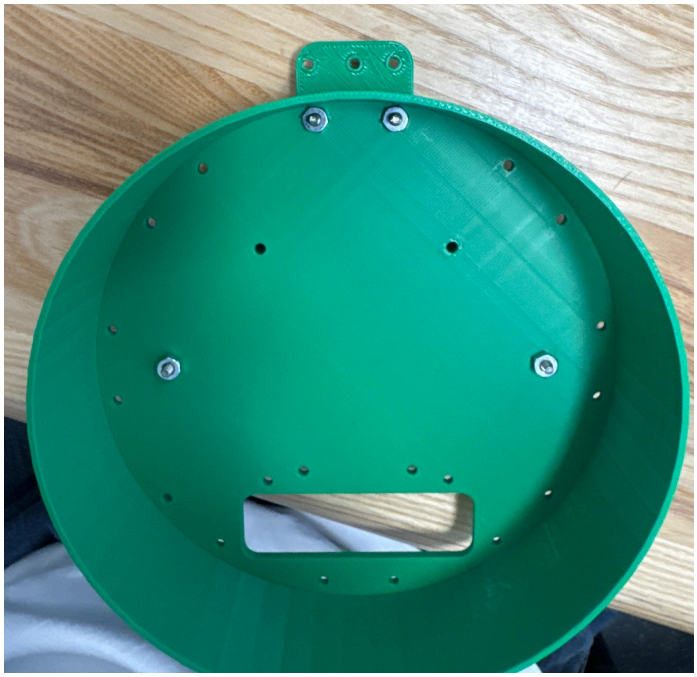


2. Align the Raspberry Pi Holder
It should look like the image below, where the gap on the Raspberry Pi holder aligns with the screw holes on the Zumo.

3. Attach the Mounting Plate
Mount the attachment plate onto the Zumo's body kit.
Use long M3 screws similar to Step 1.

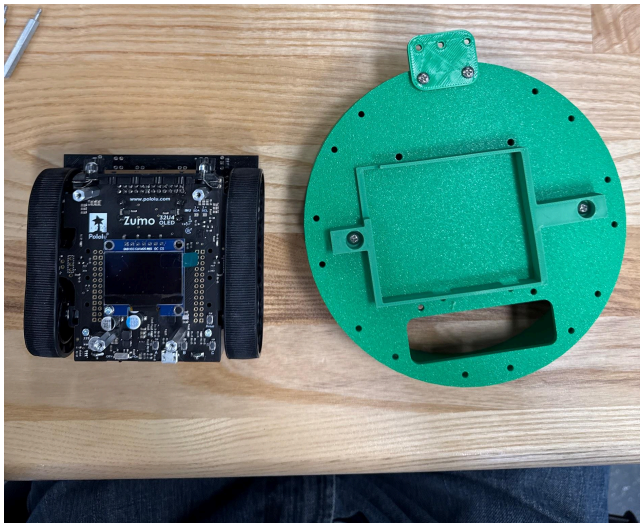


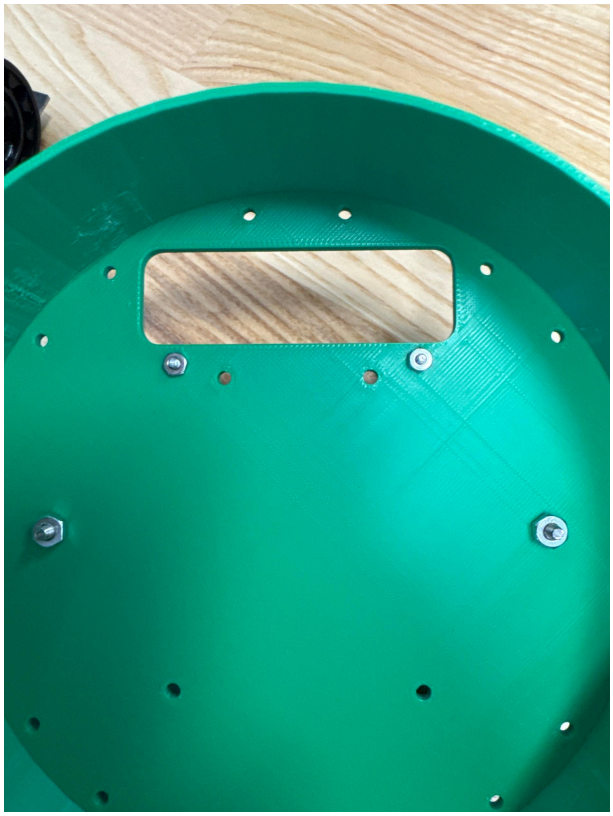
4. Prepare the Rear Standoffs

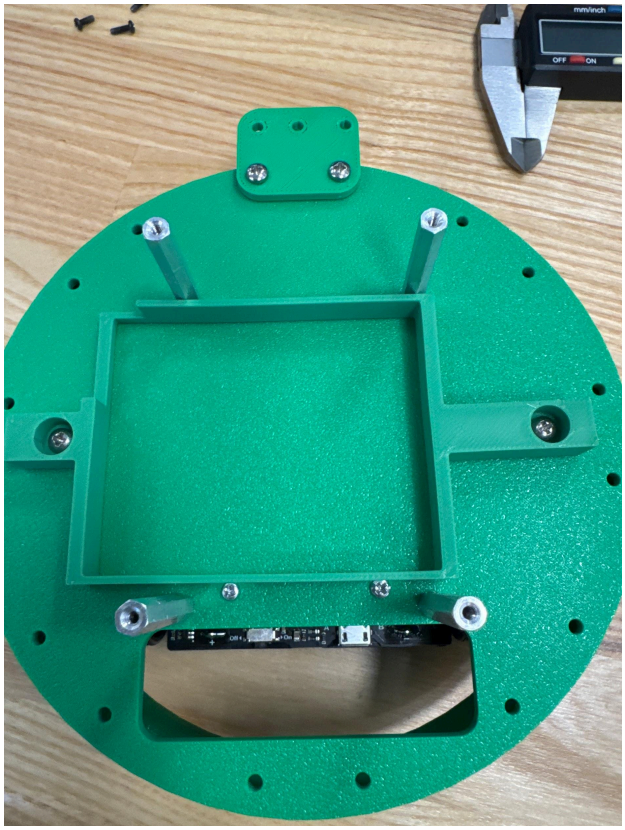
For easier assembly, start by attaching two standoffs to the extra holes at the back of the body kit and secure them with nuts.

Then, align the body kit holes with the existing standoffs on the Zumo.

Attach two more standoffs at the front, and secure the back with two small M3 screws.

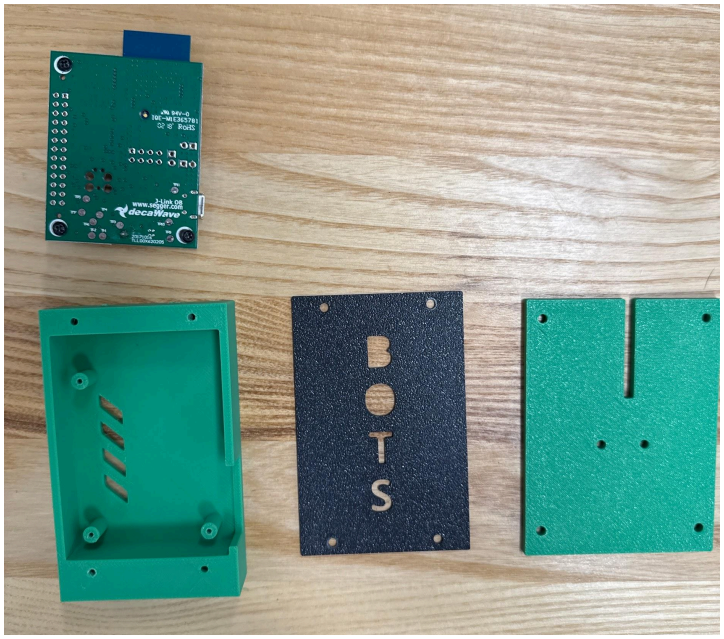




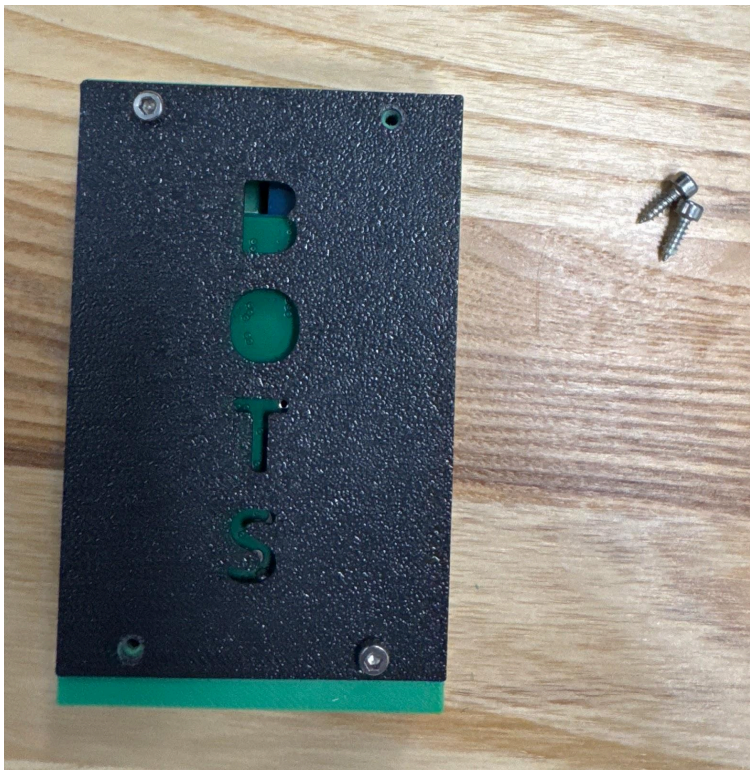


5. Mount the DWM1001 Module

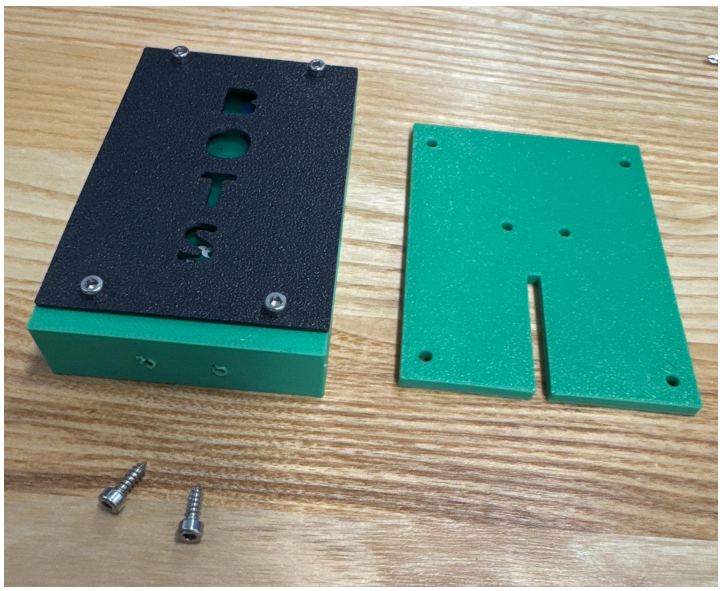
Attach the DWM1001 module to its case using the original screws from the module.
(Be careful not to overtighten.)

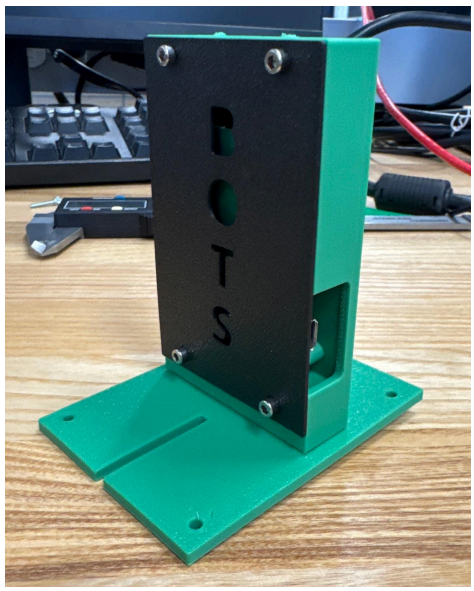


6. Secure the Case Cover
Use four pointed M3 screws to attach the case cover, as shown in the image below.



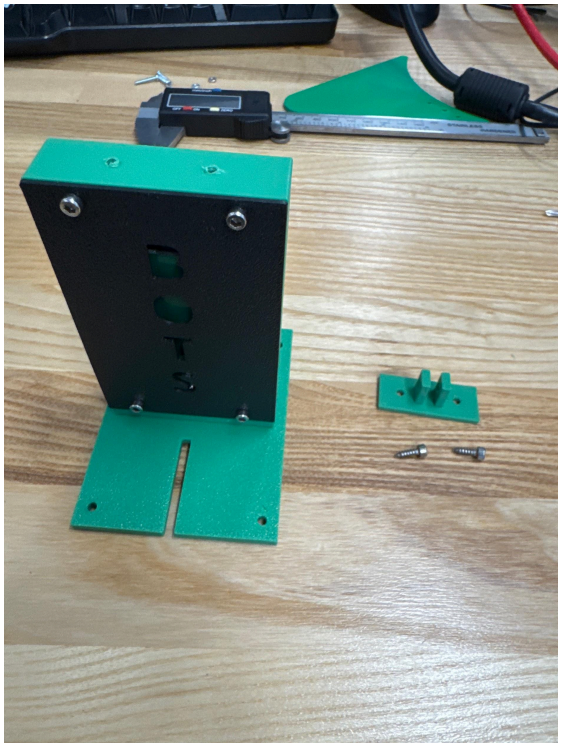
7. **Mount the UWB to the Plate**
Attach the UWB case to the mounting plate using two pointed M3 screws (same as in Step 6).





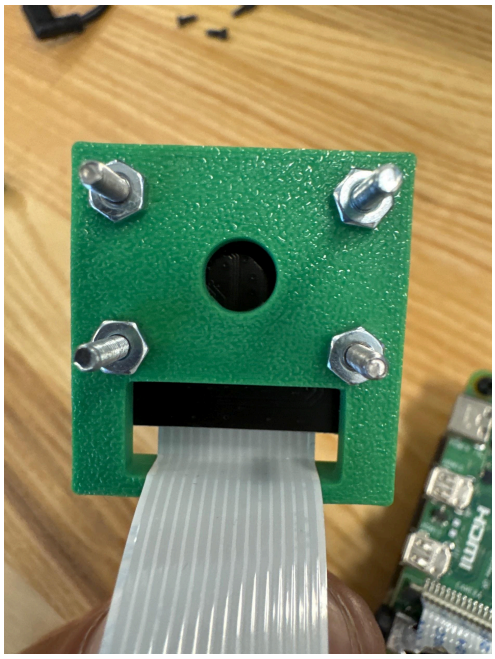
8. Attach the Camera Mount Plate

Secure the camera mount plate on top of the UWB case using the same pointed M3 screws.

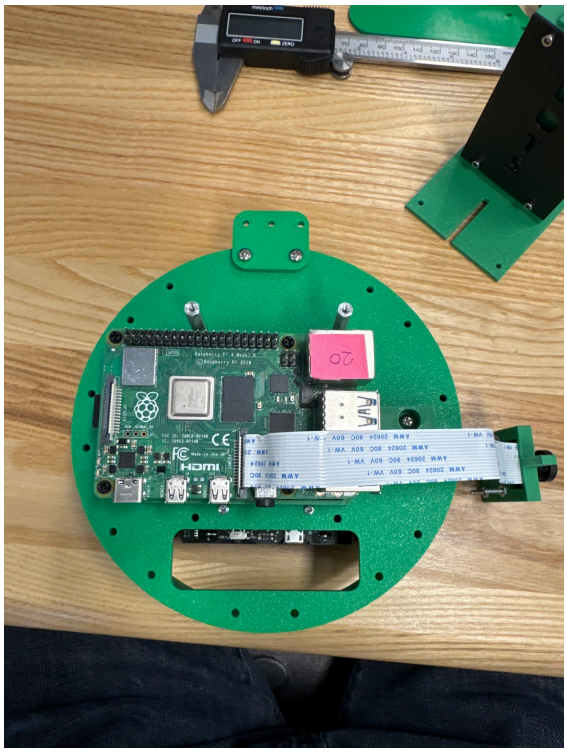
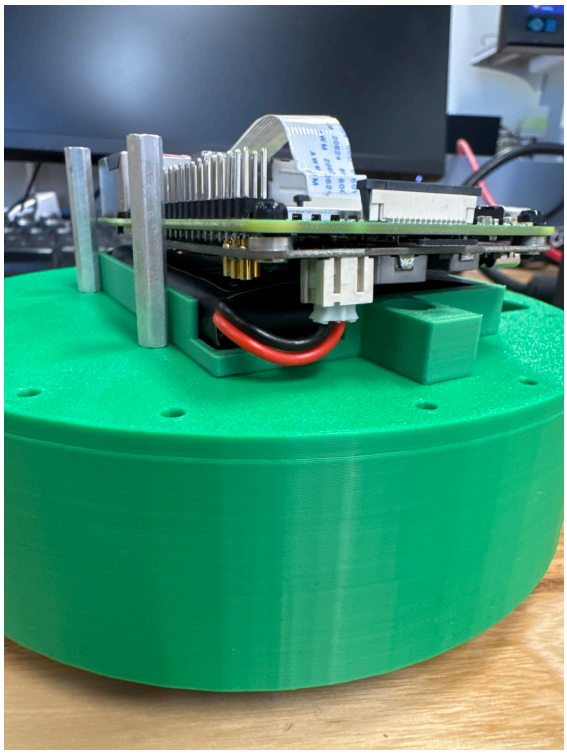


9. Mount the PiCamera

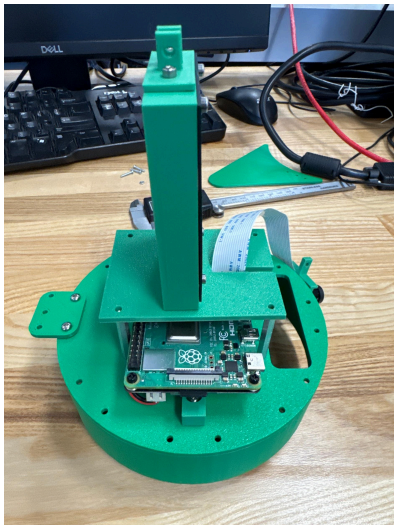
Attach the PiCamera to the Raspberry Pi and camera mount using four long M3 screws. Secure them with nuts. Use the image below for reference.



10. Position the Raspberry Pi
Place the Raspberry Pi on top of the Zumo's body kit.
Align it as shown in the image below.

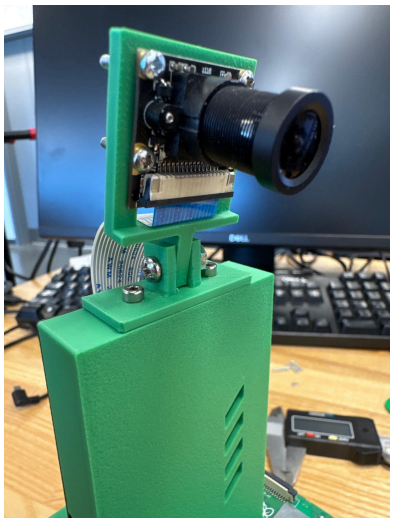



11. Mount the UWB Plate to the Zumo
Attach the rectangular UWB mounting plate to the Zumo by screwing it into the standoffs using small M3 screws. Refer to the pictures for alignment.

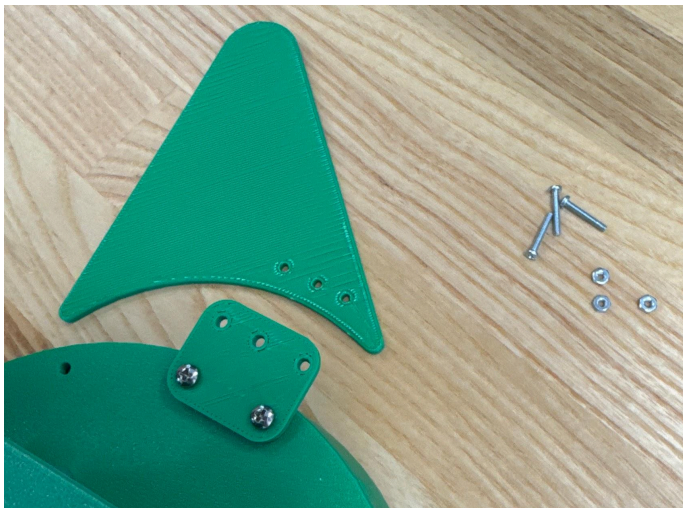
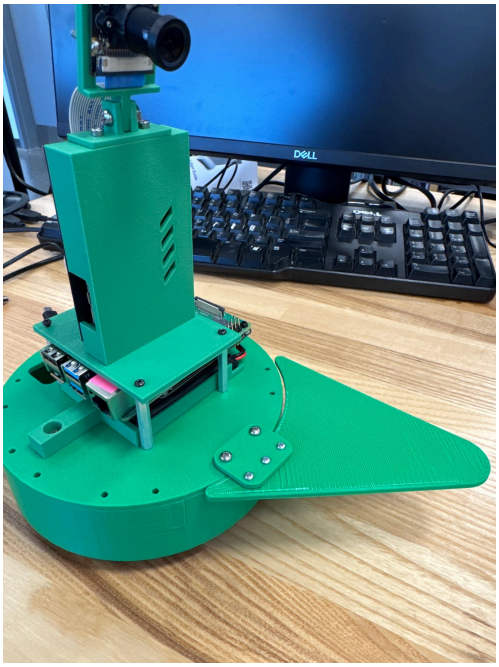



12. Assemble the Camera Mounts
Combine the camera mount parts using long M3 screws, securing each with a nut on the opposite end.



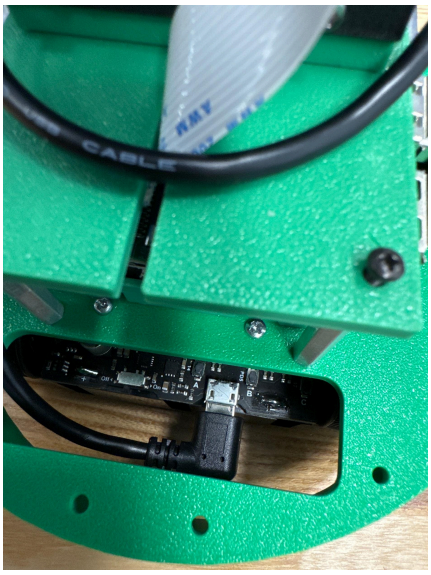


13. Attach the Top Assembly
Line up the three holes on the attachment with the mounting plate, then secure it using long M3 screws and nuts.

14. Connect the Cables

Connect the UWB and the Zumo to the Raspberry Pi using the cables.
Refer to the image below for proper connections


15. Final Assembly

Once everything is connected and secured, your build should look like the final image below.