

Responses to Reviewers

Response to Reviewer 1 Comments

1. Summary

We sincerely thank you for taking the time to review this manuscript. Please find the detailed responses below and the corresponding revisions in the re-submitted files.

2. Questions for General Evaluation

Does the introduction provide sufficient background and include all relevant references?
Is the research design appropriate?
Are the methods adequately described?
Are the results clearly presented?
Are the conclusions supported by the results?
Are all figures and tables clear and well-presented?

Reviewer's Evaluation

Yes
Must be improved
Yes
Yes
Yes
Must be improved

3. Point-by-point response to Comments and Suggestions for Authors

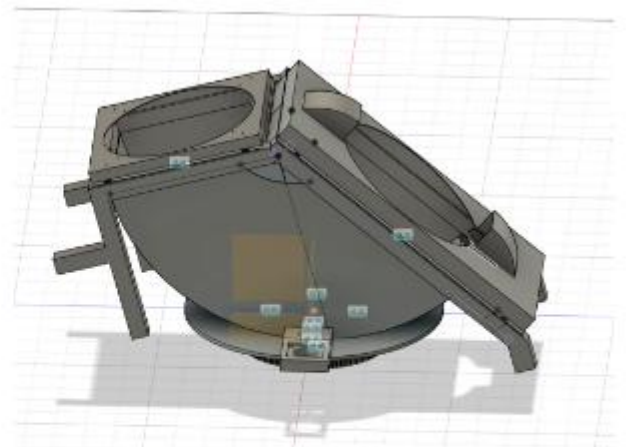
Comments 1: Missing pictures of final design.

Response 1: We thank the reviewer for pointing this out. We agree that the original draft did not provide enough visual evidence of the completed prototype, which made the final mechanical and electrical design less clear to the reader.

In response to this comment, we have added pictures of the final assembled design in the Design section.



(a) Final assembled design.



(b) Final assembled CAD.

Figure 5: Electrical schematic and final design of the basketball retrieval and return robot.

Comments 2: Complete the verifications

Response 2: We sincerely thank the reviewer for this comment. We agree that the original draft did not provide a complete verification section, and several requirements were not supported by clear test procedures, quantitative metrics, or final results.

In response to this comment, the Requirements and Verification section has been substantially revised. A complete verification plan has been added in Section 3.1. Each high-level requirement is now matched with a specific test method, measured metric, and pass criterion. The revised verification plan covers the operating range, passing accuracy, launch speed, aiming response, signal-loss protection, and repeated-operation reliability of the final prototype.

Additional verification results have also been added in Sections 3.2–3.5. The report now includes localization and aiming results, launch-speed and passing-accuracy results, integrated system testing, signal-loss testing, durability observations, and a final verification summary. These results show that the Bluetooth target was detected across the 3–7 m operating range, the launcher reoriented within the required 2 s response time, the manually adjusted launch speed covered the required 4–8 m/s range, and more than 85% of the passes arrived within the 0.6 m target radius. The system also entered the inhibited state when the Bluetooth signal was lost or invalid, and repeated operation caused no critical mechanical or electrical failure.

We also clarified the scope of the final verification. Features that were not included in the final implementation, such as infrared ball detection, limit-switch homing, and a dedicated hardware emergency-stop circuit, are no longer claimed as verified final functions. Instead, they are discussed as limitations and future improvements. This revision makes the verification section more complete, quantitative, and consistent with the actual final prototype.

The changes can be found in Section 3, especially Tables 3–7.