



Interdisciplinary Programmes in Engineering.

Student Name: Nikilesh Ramesh

Project Title: Trajectory Optimization for Target-in-range Problems

Supervisor: Dr Yuanbo Nie

Assessor: Dr Mahnaz Arvaneh

Interim Report Mark: 68.25

Supervisor Feedback on Interim Report:

"This is a generally well-written interim report with good technical details, well done Nikilesh! I particularly like the use of bullet points to communicate different elements of the project clearly and concisely.

Some suggestions:

- When writing such reports, it is important to write from the viewpoint of the reader and be particularly careful of 'expert blind spots'. For example, the concept of in-range tracking is clear to you after all the work, it may not be a widely used concept for others therefore it is of utmost importance to introduce the concept clearly in the beginning. Figure 1 is a nice technical detail, but it offers limited information in terms of how the actual tracking solution would be different, something the reader would be eagerly looking for in the introduction.
- The literature review could be broader, to cover a wider range of work in related topics. I understand the concept of in-range tracking is new and may not have much previous work directly on it, but it would be equally interesting to, for example, look at papers using set-point tracking where the actual problem specifications is, in fact, 'in-range'. The literature review regarding trajectory optimisation could also be expanded with a wider capture of methods and tools.
- All new variables in equations need to be properly introduced. For example, it would be nearly impossible to understand what the variables in (3c) are without prior knowledge of the topic.
- The progress and planning could be better visualized using a Gantt chart.

Assessor Feedback on Interim Report:

Pros:

1. ****Well-Structured and Readable:****

- The report exhibits a commendable structure, making it easy to follow and understand. This enhances the overall readability and accessibility of the content.

2. **Formations and Formatting:**

- The formations are presented in a clear and well-formatted manner. This contributes to the overall professionalism of the report and aids in conveying information effectively.

Cons:

1. **Citations for Claims:**

- While the report is well-structured, it's crucial to back all claims with proper citations. This is an essential aspect that needs attention to ensure the reliability and validity of the presented information.

2. **Figure Captions Clarity:**

- The caption clarity for figures needs improvement. Short captions can lead to confusion among readers. To enhance understanding, it is recommended to define all variables in figure captions and briefly explain the main message conveyed by each figure.

3. **Literature Review Depth:**

- The literature review, while providing a foundation, lacks depth. To enhance the quality, consider expanding the review by not only naming available methods but also providing examples of these methods in real or simulated applications. A comparative analysis with heuristic and evolutionary algorithms, along with discussing their pros and cons, will strengthen the literature review.

4. **Limited References:**

- The report could benefit from a more extensive set of references. With only five references, it indicates a lack of comprehensive review and proper citation in the text. Broadening the reference base will add credibility and depth to the content.

5. **Future Work and Management Plan:**

- The section on future work is too brief, and the management plan lacks a detailed timeline. Expanding on future directions and incorporating a clear timeline in the management plan would provide a more comprehensive outlook for readers.