Review of: "Neuro-Fuzzy-Based Adaptive Control for Autonomous Drone Flight"

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Potential competing interests: No potential competing interests to declare.

The authors have demonstrated a commendable commitment to thorough scholarship by conducting an exhaustive literature survey. The comprehensive review of existing literature lays a solid foundation for the current study, showcasing a nuanced understanding of the research landscape in the domain. The incorporation of relevant theories, methodologies, and findings from prior works reflects a conscientious effort to build upon existing knowledge.

1. While the paper demonstrates a strong foundation in terms of the proposed control algorithm, there is a notable gap in the presentation regarding the detailed theory underlying the development of the model plant. The readers would greatly benefit from a more comprehensive elucidation of the theoretical framework guiding the construction of the model plant. It is recommended that the authors consider providing an extended section, delving into the theoretical intricacies of the model plant, thereby allowing the readers to grasp the underlying principles with greater precision.
2. The figure provided in the manuscript is a valuable visual aid; however, it raises a notable concern regarding its representational scope. As currently depicted, the figure 7 offers insightful information specifically about the fuzzy logic system. Regrettably, it falls short of illustrating the complete structure of the entire process, creating a potential gap in the reader's understanding.
3. To enhance the comprehensiveness of the figure, I suggest considering an expansion to encompass the broader context of the entire process. This might involve incorporating additional elements such as the interactions with the Linear Quadratic Regulator (LQR) or other pertinent components integral to the proposed control algorithm.
4. The representation of the plant as a block provides a concise overview; however, to enhance the clarity and depth of the manuscript, I strongly recommend incorporating a detailed Simulink plant model. While the current block representation is a succinct visualization, a detailed Simulink model would offer readers a more granular insight into the dynamic aspects of the plant.
5. I encourage the authors to consider integrating the Simulink plant model into the manuscript, thereby enriching the content and contributing to the overall depth of the research presentation.
6. The simulation results presented in the scope are integral to the understanding of the study; however, it is recommended to ensure clarity by adopting a white background color. The current background color may impact the visibility and legibility of the results.
7. Switching to a white background color would not only enhance the visual appeal of the simulation results but also facilitate a clearer interpretation for the readers. This adjustment is essential for ensuring that the details within the scope are easily discernible, contributing to the overall effectiveness of the graphical presentation.

8. I encourage the authors to consider implementing this modification, as it will undoubtedly contribute to the professionalism and readability of the simulation results.

Recommendation for Publication:

The manuscript demonstrates commendable contributions to the field, and the thoughtful integration of the feedback provided will undoubtedly enhance its overall quality.

The literature survey is thorough, providing a robust foundation for the study. The proposed control algorithm, a hybrid Linear Quadratic Regulator-Adaptive Neuro-Fuzzy Inference System (LQR-ANFIS), showcases innovation and promises valuable insights for the academic community.

However, there are a few considerations for refinement. The figure illustrating the process could benefit from a more comprehensive representation, encompassing the entire structure of the entime process. Additionally, the inclusion of a detailed Simulink plant model and adopting a white background color for the scope in simulation results would significantly enhance the clarity and presentation of the findings.

These suggestions are offered with the aim of further strengthening the manuscript, ensuring its accessibility to a broad readership. With these improvements, I am confident that the paper will make a valuable contribution to the field, and I recommend it for publication.