

Review Form 1.7

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_117118
Title of the Manuscript:	Multiple Task Assignment Algorithm for Unmanned Aerial Vehicles
Type of the Article	

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<ol style="list-style-type: none"> 1. The document presents a novel two-stage auction algorithm for efficient task allocation in multi-UAV systems, addressing decentralized task allocation and path planning with computational efficiency and algorithm security. Its innovative approach contributes significantly to UAV technology, autonomous systems, and robotics fields. The findings advance the state-of-the-art in UAV mission planning and execution, benefiting the scientific community interested in autonomous systems and UAV applications. 2. Yes, the title of the article, "Multiple Task Assignment Algorithm for Unmanned Aerial Vehicles," is suitable and accurately reflects the content of the document. It clearly conveys the focus of the research on developing an algorithm for efficiently assigning tasks to unmanned aerial vehicles (UAVs). The title effectively communicates the specific area of study and the main objective of the research, making it relevant and informative for readers interested in UAV technology and task allocation algorithms. 3. The abstract comprehensively summarizes the research, outlining the proposed two-stage auction algorithm for efficient task assignment in multi-UAV systems, addressing decentralized task allocation, path planning, and resource management challenges. It effectively captures the key aspects of the study, including the innovative contributions, computational effectiveness, and potential impacts on UAV technology and autonomous systems fields. 4. The manuscript follows a structured approach with logical subsections, guiding the reader through the research methodology, proposed two-stage auction algorithm, findings, and conclusions. This coherent structure, incorporating problem introduction, algorithm presentation, comparative advantages, and simulation results, enhances readability and effectively communicates the research objectives and outcomes. 5. The manuscript presents a scientifically sound and rigorous approach to address the challenge of task assignment in multi-UAV systems. It proposes a novel two-stage auction algorithm that demonstrates improved computational efficiency, task execution efficiency, and resource utilization compared to traditional auction algorithms. The research methodology, theoretical framework, simulation results, and comparative analysis with existing methods validate the efficacy and significance of the proposed algorithm in the field of UAV technology and autonomous systems. 6. The references cited in the document appear relevant to the research topic, including classical auction algorithms, optimization methods, and specific algorithms like CAA and CBBA, supporting the theoretical framework and methodology. <p>(While the manuscript presents a novel two-stage auction algorithm for task assignment in multi-UAV systems, further clarification on the unique contribution and specific advantages of this approach compared to existing methods would strengthen the narrative. Providing detailed information about the simulation setup, parameters, and metrics used to evaluate the algorithm's performance would enhance the reproducibility and credibility of the results. Additionally, acknowledging and discussing any limitations or assumptions made in the research can help readers understand the proposed algorithm's applicability in real-world scenarios. The manuscript could benefit from exploring the practical implications of the research findings for the field of UAV technology, considering how the proposed algorithm can be implemented in real-world UAV missions and its potential impact on operational efficiency. Suggesting potential avenues for future research based on the current study's</p>	

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	outcomes and identifying areas for further exploration or refinement of the algorithm would provide valuable insights for subsequent investigations. Finally, incorporating visual aids such as figures, diagrams, or tables could enhance the clarity and understanding of the research methodology and outcomes, effectively communicating the key concepts, algorithm flow, and simulation results to the readers.)	
Minor REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	Yes	
Optional/General comments	The manuscript demonstrates a systematic and innovative approach to task assignment in multi-UAV systems through a novel two-stage auction algorithm, grounded in theoretical frameworks and optimization techniques. The comparative analysis with traditional algorithms, inclusion of simulation results, and well-structured presentation contribute to the scientific rigor and credibility of the study. While the manuscript shows promise in advancing UAV technology and algorithmic optimization, recommendations for improvement include ensuring recent references, discussing practical implications and limitations, and refining language quality and visual aids. Overall, with refinements, the research has the potential for significant scholarly impact in the field of unmanned aerial vehicles.	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	T. Meena
Department, University & Country	Velagapudi Ramakrishna Siddhartha Engineering College, India