

Review Form 1.7

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_118899
Title of the Manuscript:	Structure design and analysis of welding robot manipulator
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. 7. Introduction 8. 1.1 Composition of the mechanical arm 9. 1.2 Drive System 10. 1.3 Control system 	<p>Yes, this manuscript is important for scientific community cause it helps increasing knowledge and promoting learning, providing a comprehensive understanding of various issues and raises community awareness in structure design and analysis of welding robot manipulator.</p> <p>Design and analysis of a welding robot manipulator for industrial applications</p> <p>The abstract outlines the structure design and analysis of welding robot manipulator. However, there are several grammatical issues that affect clarity and accuracy. Moreover, the sentence structure is convoluted in places, making it difficult to discern the precise contribution or findings of the paper. It would be beneficial to rephrase sentences for clarity and coherence, ensuring that each statement contributes directly to the understanding of the article's scope, objectives, and findings.</p> <p>Need to add Results and Discussions Section</p> <p>Yes, however the details of the manuscript should be improve based on the suggestions given</p> <p>The references must be up-to-date references (5 years back).</p> <p>Figure 1 and 2, Please provide clear diagram for better understanding. The figure itself mention about the label number but it is not clear. Please provide clear diagram with label and show the label item in table for better clarification of the diagram.</p> <p>For figure 3, the diagram is clear. However, there are no details explanation on the block diagram. Please provide the details explanation on the process.</p> <p>Please check paper format because the paragraph should be in justify format.</p> <p>What is the "Executing Agency". There is no reference on the "Executing Agency which refer to the text. Please justify this statement.</p> <p>In this section, the author should give details information about the proposed system which composed a power source, a control adjustment device and an auxiliary device, which can promote the movement of the industrial manipulator actuator. The general ideas and mechanism drive system should be mentioned to give the information regarding proposed system process. Please improve this section to give better information for readers.</p> <p>The author mentioned "The control system is the brain part of the industrial robot, which controls all the activities of the industrial robot. At present, most of the control of industrial manipulator is completed by PLC control system." However, the author didn't mention the propose method for this proposed system. The author should include the propose method used in this paper to complete the overall process in for welding robot manipulator</p>	

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<p>11. 1.4 Pneumatic Drive</p> <p>12. 2.1 Design scheme of mechanical arm waist base</p> <p>13. 2.2 The design scheme of the large arm of the manipulator</p> <p>14. 2.3 Design scheme of the manipulator arm</p> <p>15. 3. Design of each degree of freedom driving system of manipulator</p> <p>16. 3.2 Pneumatic circuit operation is completed</p> <p>17. Additional Chapter – Results and Discussion</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>The author mentioned “The designed manipulator needs three kinds of movements in the task execution, and the waist rotates. Big arm lifting ; the arm stretches. Considering comprehensively, it can be concluded that the number of degrees of freedom of the manipulator is 3, so this manipulator is used.” However the author didn’t provide the details about the proposed design of welding manipulator. The author also should consider the design must be around 0.5kg to maintain the quality proposed design as mention in this section.</p> <p>The author mentioned about the pneumatic drive as a driving method for this proposed method. However Pneumatic drive itself has a low accuracy for position and speed limit. That may reflects to the overall system performance. Suggestion is the author should make a comparison between pneumatic drive, hydraulic drive and electrical drive in terms of device cost, maintenance cost, operation system, accuracy for position and speed limit, efficiency positioning and precision control. Than this can relate to the scope of the project.</p> <p>The author should provide the proposed design scheme of mechanical arm waist base. The proposed design should be details out with the information of material used, size, output torque, speed and etc.</p> <p>Please check paper format because the paragraph should be in justify format.</p> <p>Figure 6, should have a proper label each part used as a lifting structure</p> <p>Please check paper format because the paragraph should be in justify format.</p> <p>Suggestion: samples calculation should be separate from the paragraph to make the paper readable and understandable.</p> <p>Eq 2-1: parameter not describe</p> <p>Eq 2-2: parameter not the same with the equation</p> <p>Eq 2-3: parameter not proper describe</p> <p>Eq 2-4: parameter not proper describe</p> <p>Please check paper format because the paragraph should be in justify format.</p> <p>Suggestion: samples calculation should be separate from the paragraph to make the paper readable and understandable.</p> <p>Figure 7- Label No.1 until 11 should be in table format.</p> <p>Please check paper format because the paragraph should be in justify format.</p> <p>The explanation for full process should be using flowchart for better understanding rather than using → for next process overview. Each process should be in flowchart format. A flowchart is a diagram depicting a process, a system or a computer algorithm. It is a diagrammatic representation of the solution to a given problem but, more importantly, it provides a breakdown of the essential steps to solving the problem.</p> <p>The author should consider to add another chapter called results and discussions. The function of the Results section is to objectively present your key results, without interpretation, and in an orderly and logical sequence using both illustrative materials (Tables and Figures) and text. While the Methods section explains how the data were collected, the Results section presents what data were accumulated. Summaries of statistical analyses may appear either in the text or in the relevant Tables or Figures.</p> <p>The discussion section is where the author explore the underlying meaning of your research, its</p>	
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	possible implications in other areas of study, and the possible improvements that can be made in order to further develop the concerns of the author research.	
Minor REVISION comments 1. Is language/English quality of the article suitable for scholarly communications?	The manuscript would benefit from additional editing to make the language/grammar match the caliber of the studi itself.	
Optional/General comments	Provide overall comments and recommendations of the paper. Give feedback for the paper's structure, conformity to the template, clarity, grammatical construction, etc.	

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>	

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