
[IJAIN] Editor Decision for Paper entitled (Optimization of Use Case Point Through The Use of Metaheuristic Algorithm in Estimating Software Effort)

1 pesan

Dr. Mohammad Syafrullah <mohammad.syafrullah@budiluhur.ac.id>
Kepada: Ardiansyah Ardiansyah <ardiansyah@tif.uad.ac.id>

10 Desember 2023 pukul 12.53

Dear Ardiansyah Ardiansyah

We have reached a decision regarding your submission to International Journal of Advances in Intelligent Informatics, "Optimization of Use Case Point Through The Use of Metaheuristic Algorithm in Estimating Software Effort".

Our decision is: Accept with Major Revisions

Please kindly submit the revision within 1 month after receiving this notification, and follow the instructions carefully,

1. Do the corrections with track changes.
2. We required five files as feedback,
 - a) File with track changes corrections;
 - b) A file without track changes (Final copy/clean copy);
 - c) Table of correction as a response to editors/Reviewers' comments,
3. The similarity level must be less than 10% (Exclude Bibliography), and the similarity score to each source is no more than 3%.
4. Section structure. Authors are suggested to present their articles in the section structure: Introduction - Method - Results and Discussion – Conclusion
5. References. Expect a minimum of 30 references, primarily with a minimum of 80% of journal papers were published between 2020 and 2024.
6. Follow IJAIN author guidelines at <http://ijain.org/index.php/IJAIN/about/submissions#authorGuidelines>

Please be advised that authors are only permitted to resubmit their article ONCE. If the author(s) do not follow the feedback instruction and submit the revisions at the time, it would be editor(s) reasons to DECLINE your submission.

Should you have any queries, please do not hesitate to contact us by email. We look forward to hearing from you.

Regards,

Dr. Mohammad Syafrullah
(Section Editor)

Reviewer A:

Significance:

- How important is the work reported? Does it attack an

important/difficult problem (as opposed to a peripheral/simple one)?

- Does the approach offered advance the state of the art?
- Does it involve or synthesize ideas, methods, approaches from multiple disciplines?
- Does it have interesting implications for multiple disciplines?:

Good

Originality: - Is this a new issue? Is this a novel approach to an issue? - Is this a novel combination of familiar ideas/techniques/methods/approaches? - Does the paper point out differences from related research? - Does the paper properly situate itself with respect to previous work?:

Good

Quality: - Is the paper technically sound? How are its claims backed up? - Does it carefully evaluate the strengths and limitations of its contribution?:

Good

Clarity: - Is the paper clearly written? Does it motivate the research? Does it describe clearly the methods employed (e.g., experimental procedures, algorithms, analytical tools), if any? - Are the results, if any, described and evaluated thoroughly? - Is the paper organized in a sensible and logical fashion?:

Fair

Relevance:

- Is the paper closely related to the theme of the journal (broadly conceived)?
- Is the content interesting enough to a broad audience?
- Is the paper readable in a multi-disciplinary context?:

Good

Technical (1): Structure of the paper:

Fair

Technical (2): Standard of English:

Fair

Technical (3): Appropriateness of abstract as a description of the paper:

Fair

Technical (4): Use and number of keywords/key phrases:

Fair

Technical (5): Relevance and clarity of drawings, graphs and tables:

Good

Technical (6): Discussion and conclusions:

Fair

Technical (7): Reference list, adequate and correctly cited:

Fair

Explanations for the above ratings and other general comments on major issues:

- To properly contextualize this research in relation to previous work, the introduction section should address the limitations of prior studies instead of simply stating, 'The previous works do not investigate various alternative metaheuristic algorithms'
- Why does the author need to investigate various metaheuristic search-based models aimed at optimizing parameter values for use case complexity weight, especially since previous research has also explored this area? To demonstrate novelty, the author must clearly articulate the original contributions of their research, which involves more than just comparing methods previously used.

Comments on the minor details of the article:

The author needs to rewrite the abstract with a focus on the aim, method, findings, interpretation, and its benefits.

Reviewer C:

Significance:

- How important is the work reported? Does it attack an important/difficult problem (as opposed to a peripheral/simple one)?
- Does the approach offered advance the state of the art?
- Does it involve or synthesize ideas, methods, approaches from multiple disciplines?
- Does it have interesting implications for multiple disciplines?:

Fair

Originality: - Is this a new issue? Is this a novel approach to an issue? - Is this a novel combination of familiar ideas/techniques/methods/approaches? - Does the paper point out differences from related research? - Does the paper properly situate itself with respect to previous work?:

Fair

Quality: - Is the paper technically sound? How are its claims backed up? - Does it carefully evaluate the strengths and limitations of its contribution?:

Fair

Clarity: - Is the paper clearly written? Does it motivate the research? Does it describe clearly the methods employed (e.g., experimental procedures, algorithms, analytical tools), if any? - Are the results, if any, described and evaluated thoroughly? - Is the paper organized in a sensible and logical fashion?:

Fair

Relevance:

- Is the paper closely related to the theme of the journal (broadly conceived)?
- Is the content interesting enough to a broad audience?
- Is the paper readable in a multi-disciplinary context?:

Excellent

Technical (1): Structure of the paper:

Fair

Technical (2): Standard of English:

Fair

Technical (3): Appropriateness of abstract as a description of the paper:

Good

Technical (4): Use and number of keywords/key phrases:

Fair

Technical (5): Relevance and clarity of drawings, graphs and tables:

Good

Technical (6): Discussion and conclusions:

Fair

Technical (7): Reference list, adequate and correctly cited:

Fair

Explanations for the above ratings and other general comments on major issues:

- In the method section, the author proposed to optimize the use case component by individually employing metaheuristic algorithms using GWO, PSO, GA, RSA, and FA. However, the specific application of each algorithm for optimization is not detailed. Are there any specific improvements when comparing these algorithms to each other?"

- The method also needs a more specific and detailed elaboration dataset, mathematical model, and accuracy testing method.

Comments on the minor details of the article:

-

Reviewer D:

Significance:

- How important is the work reported? Does it attack an important/difficult problem (as opposed to a peripheral/simple one)?
- Does the approach offered advance the state of the art?
- Does it involve or synthesize ideas, methods, approaches from multiple disciplines?
- Does it have interesting implications for multiple disciplines?:
Fair

Originality: - Is this a new issue? Is this a novel approach to an issue? - Is this a novel combination of familiar ideas/techniques/methods/approaches? - Does the paper point out differences from related research? - Does the paper properly situate itself with respect to previous work?:
Fair

Quality: - Is the paper technically sound? How are its claims backed up? - Does it carefully evaluate the strengths and limitations of its contribution?:
Fair

Clarity: - Is the paper clearly written? Does it motivate the research? Does it describe clearly the methods employed (e.g., experimental procedures, algorithms, analytical tools), if any? - Are the results, if any, described and evaluated thoroughly? - Is the paper organized in a sensible and logical fashion?:
Fair

Relevance:
- Is the paper closely related to the theme of the journal (broadly conceived)?
- Is the content interesting enough to a broad audience?
- Is the paper readable in a multi-disciplinary context?:
Fair

Technical (1): Structure of the paper:
Good

Technical (2): Standard of English:
Fair

Technical (3): Appropriateness of abstract as a description of the paper:
Fair

Technical (4): Use and number of keywords/key phrases:
Good

Technical (5): Relevance and clarity of drawings, graphs and tables:
Good

Technical (6): Discussion and conclusions:
Fair

Technical (7): Reference list, adequate and correctly cited:
Fair

Explanations for the above ratings and other general comments on major issues:

Comments on the minor details of the article:

This research discusses various approaches and techniques for software effort estimation, explicitly focusing on the use case point estimation method. It mentions the importance of parameters such as actors, use case specifications, and technical and environmental complexity factors in estimating software effort. There were some suggestions to improve this research.

A. Abstract:

1. The abstract provides a good overview of the research topic and the study's objective. However, it could be improved by including more specific details about the dataset used and the performance metrics evaluated.
2. Consider mentioning the study's specific software development projects or domains.
3. Provide a summary of the main findings or conclusions of the research.

B. Introduction:

1. The introduction provides a transparent background and motivation for the research topic. However, it could be enhanced by providing more context on the challenges and limitations of existing software effort estimation methods.
2. Consider including a brief overview of the approaches and techniques used in software effort estimation, such as expert judgment, algorithmic models, and machine learning.
3. Provide a clear research objective or research questions that will be addressed in the study.

C. Method:

1. The method section provides a good overview of the different optimization techniques used in the study. However, it could be improved by providing more details on the specific implementation of each algorithm.
2. Include information on the parameters and settings used for each optimization technique.
3. Consider providing a flowchart or diagram to illustrate the overall methodology used in the study.

D. Result and Discussion:

1. The results and discussion section clearly presents the experimental findings. However, it could be improved by providing a more detailed analysis and interpretation of the results.
2. Include statistical analysis or significance testing to support the conclusions drawn from the results.
3. Discuss the study's limitations and potential sources of bias or error in the experimental setup.

E. Conclusion:

1. The conclusion provides a concise summary of the study's main findings. However, it could be improved by providing more insights and implications of the research.
2. Discuss the practical implications of the findings for software development companies or practitioners.
3. Consider suggesting future research directions or areas for further investigation based on the limitations or gaps identified in the study.

F. References:

1. References are journal papers published within the last four years (between 2020 and 2023). It used a tool such as Zotero, Mendeley, or EndNote for reference management and formatting and has chosen the IEEE style.

2. Verify that all references cited in the main text are included in the references list, and vice versa, to ensure accuracy and completeness.

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RESPONSE PAPER

Manuscript: #1298

Submitted to *International Journal of Advances in Intelligent Informatics (IJAIN)*

Optimization of Use Case Point Through The Use of Metaheuristic Algorithm in Estimating Software Effort

REVIEWER: A

COMMENT 1

“To properly contextualize this research in relation to previous work, the introduction section should address the limitations of prior studies instead of simply stating, 'The previous works do not investigate various alternative metaheuristic algorithms’”

Answer:

The authors have addressed the limitations of prior studies as written on page 3 and at the end of paragraph 2.

COMMENT 2

“Why does the author need to investigate various metaheuristic search-based models aimed at optimizing parameter values for use case complexity weight, especially since previous research has also explored this area? To demonstrate novelty, the author must clearly articulate the original contributions of their research, which involves more than just comparing methods previously used.”

Answer:

The authors need to investigate various metaheuristic models because these algorithms have more diverse characteristics as well as strengths and weaknesses to solve the particular optimization problem in search-based software effort estimation. For example, RSA and GWO are two algorithms based on encircling and hunting mechanisms. PSO and Firefly are algorithms based on large flocks of animals looking for food. Meanwhile, GA is an algorithm that adopts evolutionary theory.

At the end of page 3, the authors have clearly stated the original contributions of their research.

COMMENT 3

“The author needs to rewrite the abstract with a focus on the aim, method, findings, interpretation, and its benefits.”

Answer:

The authors have rewritten and aligned the abstract with the reviewers' suggestions.

REVIEWER: D

<p>COMMENT 1: Abstract</p> <p><i>“1. The abstract provides a good overview of the research topic and the study's objective. However, it could be improved by including more specific details about the dataset used and the performance metrics evaluated.”</i></p> <p>Answer: The authors have included the dataset and performance metrics used in the abstract.</p> <p><i>“2. Consider mentioning the study's specific software development projects or domains.”</i></p> <p>Answer: The authors considered mentioning the specific project or domain of software development in section 4.2, which describes the dataset used in the experiment.</p> <p><i>“3. Provide a summary of the main findings or conclusions of the research.”</i></p> <p>Answer: The authors have provided the main findings at the end of abstract section.</p>
<p>COMMENT 2: Introduction</p> <p><i>“1. The introduction provides a transparent background and motivation for the research topic. However, it could be enhanced by providing more context on the challenges and limitations of existing software effort estimation methods.”</i></p> <p>Answer: The authors have provided challenges and limitations of existing software effort methods as written on page 2 at last part of paragraph 1.</p> <p><i>“2. Consider including a brief overview of the approaches and techniques used in software effort estimation, such as expert judgment, algorithmic models, and machine learning.”</i></p> <p>Answer: The authors have included a brief overview of the approaches and techniques used in software effort estimation as written on page 2, paragraph 1.</p> <p><i>“3. Provide a clear research objective or research questions that will be addressed in the study.”</i></p> <p>Answer: The authors have written a clear research objective as written in the last paragraph of page 3.</p>
<p>COMMENT 3: Method</p> <p><i>“1. The method section provides a good overview of the different optimization techniques used in the study. However, it could be improved by providing more details on the specific implementation of each algorithm.”</i></p> <p>Answer: The authors have improved the method section by providing a specific implementation of each algorithm, as written on page 13.</p> <p><i>“2. Include information on the parameters and settings used for each optimization technique.”</i></p> <p>Answer: The parameter settings used for each optimization technique have been provided in Table 5.</p> <p><i>“3. Consider providing a flowchart or diagram to illustrate the overall methodology used in the study.”</i></p> <p>Answer:</p>

The authors have provided the experimental design flow as illustrated in Figure 2.

COMMENT 4: Results and Discussions

"1. The results and discussion section clearly presents the experimental findings. However, it could be improved by providing a more detailed analysis and interpretation of the results."

Answer:

The authors have provided a detailed analysis and interpretation of the results in the last paragraph of page 18.

"2. Include statistical analysis or significance testing to support the conclusions drawn from the results."

Answer:

The authors have included the statistical analysis or significance testing in the last paragraph of page 21, 22, and 23.

"3. Discuss the study's limitations and potential sources of bias or error in the experimental setup."

Answer:

The authors have discussed the potential bias of this study by adding a new section 6. Threats to Validity.

COMMENT 5: Conclusion

"1. The conclusion provides a concise summary of the study's main findings. However, it could be improved by providing more insights and implications of the research."

Answer:

Df.

"2. Discuss the practical implications of the findings for software development companies or practitioners."

Answer:

The authors have added insights and implications of the research for software managers.

"3. Consider suggesting future research directions or areas for further investigation based on the limitations or gaps identified in the study."

Answer:

The authors have suggested the future work of this study in the conclusion section.

REVIEWER: C

COMMENT 1

“In the method section, the author proposed to optimize the use case component by individually employing metaheuristic algorithms using GWO, PSO, GA, RSA, and FA. However, the specific application of each algorithm for optimization is not detailed. Are there any specific improvements when comparing these algorithms to each other?”

Answer:

The authors have described the specific application of each algorithm in section 4. The specific improvement when comparing the algorithms has been discussed in section 5.2

COMMENT 2

“The method also needs a more specific and detailed elaboration dataset, mathematical model, and accuracy testing method.”

Answer:

The authors have elaborated the dataset in subsection 4.2, mathematical formulation in subsection 4.4, and accuracy testing method in subsection 4.3.