Reply Letter to Reviewer 1

The authors appreciate the reviewer for insightful comments that improve the quality of this article. The modified part or the content added in the revision are printed in red. The response to each comment is given below.

1. The presentation of this paper is simple and short. We recommend the author to improve the technical content and highlight the proposed methodology.

Response.

Thanks for your insightful comment. The revision has been modified in a clear way to describe this study. Additionally, several sections have been added to improve the quality of the paper. The number of pages in this article has been extended from 15 to 22. In addition, the revision has been edited by the MDPI English editing service (in blue). We believe that the technical context has been significantly improved. The main modifications and sections added in the revision are listed below.

A. Abstract section.

The Abstract has been rewritten to include the method, the result with data, and the implications in this study. (Lines 11-29)

B. Introduction section.

In the Introduction section, several to-date references have been added, and contributions of this paper have been modified and rewritten to highlight the proposed method. In addition, comments have been added on the related literature in the related context. (Lines 50-55; Lines 81-92; Lines 102-148)

C. Review section.

(A) Section 2.1 has been added to review the DCP to better understand the research direction. (Lines 155-175)

(B) Section 2.2. A brief explanation has been added to clarify the difference between the DCP and the IDCP, where examples were given to show the ideas. Additionally, the parameter settings for the DCP, the IDCP and the IDCP/WOA have been added and summarized in Table 1 to indicate the difference between. (Lines 201-223)

D. Approach section (The proposed OIDCP).

Section 3.1 has been added to describe the motivation of this study, where the stages of the proposed OIDCP are summarized in Table 5. (Lines 256-288)

E. Results and discussion section.

(A) Section 4.2 has been added to investigate four metaheuristic optimization algorithms. This section explains why the WOA is used in this study. (Lines 450-464)

(B) Section 4.4 has been added to compare the IDCP and the OIDCP that use heuristic scaling factors and optimized scaling factors, respectively. The purpose of this section is to investigate how the scaling factors impact the dehazing performance. Here, the IDCP serves as a reference model. (Lines 487-515)

(C) Sections 4.5.2 and 4.5.3 have added two more data sets (the O-HAZE and the KeDeMa) to further verify the proposed OIDCP and to compare the IDCP and four recent dehazing methods. (Lines 547-598)

F. Conclusions section.

It has been modified to summarize this study, in which the implication and further research is also given.

2. **Related Works:** This section required more attention and the author must include recent year papers related to different optimization algorithm and Dehazing Algorithm. Problem statements and limitations of the previous research must be discussed.

Response.

Thanks for your comment. In the literature review, comments have been added in related papers and the gap of previous research has been mentioned. Furthermore, the attempt of this study is described to highlight the contribution of this study. (Lines 84-92; Lines 102-105)

3. Dataset is limited, we strongly suggest you include a few more benchmark datasets.

Response.

Thanks for your comment. Two benchmark data sets (the O-HAZE and the KeDeMa) have been added in the experiment. The results are given in Section 4.5.2 and Section 4.5.3, respectively. (Lines 547-598)

4. The author claimed that WOA and OIDCP gave an improvisation in terms of results. But the explanation is short and it's not reflected in the result section.

Response.

Thanks for your comment. Related explanations have been added in Sections 4.4, and 4.5.

5. How does the author select this optimization, there is no baseline model comparison between those algorithms. How the best solution is derived (Voting, correlation or max). Explanation is required.

Response.

Thanks for your comment. Section 4.2 has been added to investigate the effect of various metaheuristic optimization algorithms on the dehazing performance of the IDCP. The result explains why the WOA is selected in this study. (Lines 450-464)

6. Result section discussed well but the importance of WOA and other optimization is missing. The results section should discuss the importance of individual algorithms and the other computational (hybrid) models.

Response.

Thanks for your comment. The discussion on the results of the proposed OIDCP and the comparison methods is added in related paragraphs of Section 4.

7. Provide dataset and implementation code using third party repository / appendix for better understanding.

Response.

The source codes for the proposed OIDCP has been uploaded on the website: https://github.com/C-H-Hsieh/OIDCP.git. Once the paper is accepted, the link will be opened to the public.

We certify that the following article

Using Whale Optimization Algorithm and Haze Level Information in a Model-Based Image Dehazing Algorithm

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has undergone English language editing by MDPI. The text has been checked for correct use of grammar and common technical terms, and edited to a level suitable for reporting research in a scholarly journal.
MDPI uses experienced, native English speaking editors. Full details of the editing service can be found at
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