

Dear Professor,

Re: Transfer Learning Based on Clustering Difference for Dynamic Multi-objective Optimization

ID: applsci-2270247

Many thanks for sending us the reviewers' comments which we found extremely constructive in improving the quality of our paper.

We have revised the manuscript accordingly and our responses are attached below. As is evident, all changes are highlighted in the main text.

Once again, thank you for your help in improving our manuscript.

Yours sincerely,

Fangpei Yao, Gai-Ge Wang

Address: School of Computer Science and Technology, Ocean University of China, 266100 Qingdao, China; E-mail: wgg@ouc.edu.cn.

Response to comments of reviewers

Reviewer 1

1. Comment: Authors should quote equation numbers in text.

✓ **Response:** Thank you for this constructive comment. We have quoted the equation numbers in the text.

2. Comment: There are some typos like equation 1 after equation 16, table 2 is written twice in captions Etc. Please correct and check the complete paper.

✓ **Response:** Thank you for this constructive comment. We have corrected the table name and formula number.

3. Comment: There is no any winner column in table 3 as mentioned in text. Please correct.

✓ **Response:** Thank you for this constructive comment. In response to this comment, we have carefully revised the paper table titles. Now table 3 contains the winner column mentioned in the text.

4. Comment: Do not use 'we' in paper. Please check and correct it wherever it is written.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. In response to this comment, We have carefully checked the full text and corrected.

5. Comment: List of abbreviation is needed for better understanding.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. We have abbreviated Table 2 and Table 3.

6. Comment: Explain Figure 4.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. Due to the addition of some pictures in the previous sections, the original figure 4 is now changed to figure 6, and we have explained it in detail in section 4.2.

7. Comment: How do authors use these algorithms in MATLAB. Please elaborate and show the MATLAB model for better understanding.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. For a better understanding, we add the overall framework of the algorithm in Section 3.1. These algorithms are written in the m-file of MATLAB, and do not use the MATLAB model.

Reviewer 2

1. Comment: The contribution of this paper is not clear. Please re-write it.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. We have rewritten the contribution of this article and presented it in points.

2. Comment: Section 2.2 of related works in solving dynamic multi-objective optimization problem should be moved into the Introduction section.

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. We have moved the related work in Section 2.2 to the Introduction section.

3. Comment: Section 2 is redundant. I think it should put it in Section 3. Section 3 should start with Section 3.1 as Dynamic multi-objective optimization problems.

- ✓ **Response:** Thank you for this constructive comment. Section 2.1 is a very important concept, definition and algorithm pseudocode of this research direction, so it is very necessary. Section 3 is the detailed process of our proposed strategy, so we add Section 3.1 to introduce the overall framework of the algorithm after adding the new strategy.

4. Comment: Please write the full form of KDT-DMOEA while starting the section (Section 3).

- ✓ **Response:** We wish to thank the reviewer for the detailed review comments. We have changed KDT-DMOEA to TCD-DMOEA according to the thesis title, and showed its full form at the beginning of the Section 3.

5. Comment: It is difficult to know what the authors are proposing? A new method or a

methodology/framework? I suggest that the authors add a new section (Section 2) where they discuss the proposed methodology in brief with block diagrams.

- ✓ **Response:** Thank you for this constructive comment. This article mainly proposes a new method to improve the convergence and diversity of Pareto optimal solutions through clustering difference strategy and transfer learning strategy. We have added Section 3.1 to describe the overall framework of the algorithm.

6. Comment: Re-write the conclusion (Authors should write more about the findings of the paper rather than described their proposed methodology).

- ✓ **Response:** Thank you for this constructive comment. We have rewritten the conclusions section and added the shortcomings of the proposed strategy.