

Dear Reviewer,

Thank you for your constructive comments concerning our manuscript entitled **“The Unsupervised Image Enhancement Method Based on Attention Map Network Guidance and Attention Mechanism”** (ID: electronics-2279663). We are very much appreciated. The comments are all valuable and very helpful for revising and improving the quality of our manuscript. We have gone through these comments carefully and made corrections accordingly. The detailed responses to the comments are listed below and highlighted in blue. We believe that the revised manuscript is much stronger than the original version.

Responses to the comments:

Comment 1: The English writing could be further improved. Just a few examples: in line 45, its->their/corresponding; line 7, similar->related; line 62, Method of Image Enhancement -> Image Enhancement Methods; line 167, Contribution to This Paper -> Contribution of This Paper ...

Response: Thank you for your careful reading of our manuscript. We have carefully reviewed and revised the manuscript to improve the quality of the English writing. Please let us know if any further improvements are required."

Comment 2: - In Section 2, the review of related works looks unbalanced. For instance, since retinex-based techniques are more recent and from current point of view more important than histogram-based methods, it makes sense to use comparable space to review this line of research and mention the latest related works (e.g., "Enhancing Low-Light Color Image via L0 Regularization and Reweighted Group Sparsity" in IEEE Access 2021).

Response: We are very grateful for your advice. The suggestion you made is very correct. We have expanded our related work section about the Retinex method, and we are also very grateful for the paper you provided for our reference. We believe that the theoretical novelty of that article is

excellent, and we have introduced it into the introduction of the Retinex-related method.

Comment 3: - Also in Section 2, it may not be necessary to separate each paragraph into a subsection.

Response: We are very grateful for your advice. We have removed the descriptions of some niche methods that are not related to this article. The suggestion you made is indeed very correct, and we have deleted the unnecessary subsection.

Comment 4: - In Table 1, it could be helpful to highlight the best (perhaps also the 2nd best) scores.

Response: We are very grateful for your advice. We have made modifications to the table and highlighted the experimental results.

our revision

- (1) During our inspection of the proofreading code and paper, we discovered that in the ablation experiment, it had a preliminary effect to only retain the backbone network. However, we mistakenly removed the inter-layer connections of the backbone network and proceeded with the training, resulting in an erroneous outcome that could not converge. We have modified the relevant images, and the original images and our re-uploaded images can be seen in the manuscript. I'm sorry we caused this trouble.
- (2) We named our proposed attention network "MBCMHS-A-Net" because we realized that using the name "Attention Module" would mislead readers into thinking that we proposed a general attention module network. As the network name has been changed, we have redrawn the diagram, and the structure of the network remains unchanged, but with some added details such as the attention map.

In all, we found the comments are very constructive and helpful, and we revised

our manuscript point-by-point. Thank you once again for your help.

Best Regards.

Yours sincerely,

Mengfei Wu