

NEUCOM-D-24-08078

发件人: Neurocomputing<em@editorialmanager.com>

时 间: 2024年11月25日(星期一) 中午11:34

收件人: Xiaotong Zhou<xiaotong_zhou@nuist.edu.cn>

RRef.: Ms. No. **NEUCOM-D-24-08078**

Bridging the Metrics Gap in Image Style Transfer: A Comprehensive Survey of Models and Criteria
Neurocomputing

Dear Mr. Zhou,

Please find below the referee reports. Based on these and the corresponding recommendation of the associate editor, I have to inform you that your paper

Bridging the Metrics Gap in Image Style Transfer: A Comprehensive Survey of Models and Criteria with manuscript number: **NEUCOM-D-24-08078**

in its present form cannot be accepted for publication in Neurocomputing.

However, I would very much like to invite you to revise your paper, seriously taking into account the comments of the reviewers, and to resubmit your revised version by **Dec 15, 2024** (mm/dd/yy). Any revision received after that may be treated as a new submission.

To submit your revision, go to <https://www2.cloud.editorialmanager.com/neucom/default2.aspx> and login as an Author. You will see a menu item call Submission Needing Revision. Here you will also find your submission record.

The revised material should consist of

- your response to the reviewers' comments (to be uploaded as "Revision notes"),
- the revised PDF of the manuscript,
- the source files that have been used to prepare it (source files in LaTeX or Word, as well as separate figure files; these will be used for the eventual typesetting of the paper)
- and finally, biographies and pictures of all authors.

*** Please note: while submitting the revised manuscript, please double check the author names provided in the submission and make sure to indicate any authorship related changes in the revision. Once a paper is accepted, we do not accept any changes to the author list unless explicit approval is given from co-authors and respective editor handling the submission; this may cause a significant delay in publishing your manuscript. Therefore, please make sure that you include the correct author list in the revised text of your manuscript. ***

Other journal-related information is included below, following the reviewer's comments.

Research Elements (optional)

This journal encourages you to share research objects - including your raw data, methods, protocols, software, hardware and more – which support your original research article in a Research Elements journal. Research Elements are open access, multidisciplinary, peer-reviewed journals which make the objects associated with your research more discoverable, trustworthy and promote replicability and reproducibility. As open access journals, there may be an Article Publishing Charge if your paper is accepted for publication. Find out more about the Research Elements journals at https://www.elsevier.com/authors/tools-and-resources/research-elements-journals?dgcid=ec_em_research_elements_email.

Kind regards,
Jungong Han, Ph.D.
Editor in Chief
Neurocomputing

Editor's and reviewers' comments:

Reviewer #1: Strength: Image style transfer combines the content of a real photograph with the artistic style of another image to create a new and stylized image. This paper provides a comprehensive review of the field of image style transfer. The paper is easy to follow, and the motivation of this paper is sound.

Weakness:

缺点1：需要讨论当前工作在可解释性上的努力与不足, 并指明未来的发展方向

1. The discussions on interpretability and controllability need further clarification (Sec. 5.2). Current research on style transfer develops limited research on explicit interpretability [1-4]. Some diffusion model, use visual programming based approaches to achieve controllability [5-6], however, the transferring process is not transparent (This topic can be included in Sec. 5.5 in human-computer interaction). These works should be discussed, and highlight the future directions.

2. While the current paper covers a lot of specific works, a more general/high-level discussions of different methods, and future direction is encouraged. This can help the community target more specific goals.

缺点2：需要更清晰、更高屋建瓴的给出当前领域的发展前景。

- [1] Visual recognition with deep nearest centroids
- [2] Towards explainable deep neural networks (xDNN)
- [3] Deep learning for case-based reasoning through prototypes: A neural network that explains its predictions
- [4] Unified 3d segmenter as prototypical classifiers
- [5] Visual programming: Compositional visual reasoning without training
- [6] Image Translation as Diffusion Visual Programmers

The typos do not change my rating:

Some results appear more like "discoveries" rather --> Some results appear more like "discoveries" rather

Overall, it is a good survey in this domain.

Reviewer #2: Summary:

This manuscript provides a survey of image style transfer techniques, focusing on the evolution from traditional methods to neural approaches. While the paper makes a contribution by attempting to systematically categorize the field and analyze evaluation metrics, several major issues need to be addressed before publication.

Strengths:

- Comprehensive coverage of the field's development, from traditional methods to modern neural approaches
- Valuable analysis of evaluation metrics used in the field
- Clear categorization of neural style transfer into distinct developmental stages

Major Concerns:

-The introduction lacks clear motivation for why this survey is needed now

-Missing discussion of several recent works on the narrow topic, such as:

[StyleFormer: Real-time Arbitrary Style Transfer...]

[Stylerrf: Zero-shot 3d style transfer of neural radiance...]

-Limited coverage of real-world applications and practical challenges

-Should include at least some quantitative comparison/tables of different methods

Insufficient coverage of domain adaptation connections

-Need more discussion of style transfer for 3D content

-Currently the survey missed a lot of recent works from 2022-2024 in wider area of visual reasoning and image transfer methods, as exemplified by:

[Visual recognition with deep nearest centroids]

[Learning equivariant segmentation with instance-unique querying]

[Diffusion Attack: Leveraging Stable Diffusion for Naturalistic Image Attacking]

=====

Additional journal-related information:

Please proceed to the following link to update your personal classifications and keywords, if necessary:

[Update Personal Keywords](#)

Please note that this journal offers a new, free service called AudioSlides: brief, webcast-style presentations that are shown next to published articles on ScienceDirect (see also <http://www.elsevier.com/audioslides>). If your paper is accepted for publication, you will automatically receive an invitation to create an AudioSlides presentation.

Neurocomputing features the Interactive Plot Viewer, see: <http://www.elsevier.com/interactiveplots>. Interactive Plots provide easy access to the data behind plots. To include one with your article, please prepare a .csv file with your plot data and test it online at <http://authortools.elsevier.com/interactiveplots/verification> before submission as supplementary material.

For further assistance, please visit our customer support site at <http://help.elsevier.com/app/answers/list/p/7923> Here you can search for solutions on a range of topics, find answers to frequently asked questions and learn more about EM via interactive tutorials. You will also find our 24/7 support contact details should you need any further assistance from one of our customer support representatives.

At Elsevier, we want to help all our authors to stay safe when publishing. Please be aware of fraudulent messages requesting money in return for the publication of your paper. If you are publishing open access with Elsevier, bear in mind that we will never request payment before the paper has been accepted. We have prepared some guidelines (<https://www.elsevier.com/connect/authors-update/seven-top-tips-on-stopping-apc-scams>) that you may find helpful, including a short video on Identifying fake acceptance letters (<https://www.youtube.com/watch?v=o5l8thD9XtE>). Please remember that you can contact Elsevier's Researcher Support team (<https://service.elsevier.com/app/home/supporthub/publishing/>) at any time if you have questions about your manuscript, and you can log into Editorial Manager to check the status of your manuscript (https://service.elsevier.com/app/answers/detail/a_id/29155/c/10530/supporthub/publishing/kw/status/).

#AU_NEUCOM#

To ensure this email reaches the intended recipient, please do not delete the above code

In compliance with data protection regulations, you may request that we remove your personal registration details at any time. ([Remove my information/details](#)). Please contact the publication office if you have any questions.