Paper Review

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1 Review form[1]

1. Submission Category [as indicated by authors]

   I Regular Research
   II Experiments and Analyses
   III Innovative Systems and Applications
   IV Vision

2. Relevance to SIGKDD

   I High
   II **Adequate**
   III Should submit to alternative forum

3. Overall Rating

   I Strong Accept
   II **Accept**
   III Weak Accept
   IV Weak Reject
   V Reject
   VI Strong Reject

4. Justification of your overall recommendation (one paragraph)

> The paper exposes an interesting contribution. It elaborates and proves in a clear way that w is cardinal to obtain high quality clustering. However, it makes some technical assumptions[2] which deserve more attention.

5. List major strong points of the paper (if any)

> - It presents and supports the importance of w for computing $cDTW^w$ and time series clustering.
> - It uses a large number of datasets for empirical evaluation.
> - It states the contributions and elaborates each of them in a clear and organized way.

[1] Selected option is in bold.
[2] Unfortunately, for this review we do not have access to the supporting website to check them.

6. List major weak points of the paper (if any)

- It presents evidence of particular datasets to illustrate specific issues. However, there are few references to global statistics for all datasets. For instance, it would be interesting to get the range, mean and standard deviation of the scores in section 4.1. In a similar way, it would be important to know the average number of incorrect and correct user annotations for all datasets in sections 4.2 and 4.3 respectively.
- It does not explain how the annotations were collected. It remains unknown if it was done by a single annotator (maybe with previous experience in the dataset) or the sample's mean of a group of independent users.
- Algorithm in table 2 replaces real time series for warped versions of the objects that preceded them. Although *Dnew*' size is the same, it contains half of the initial time series. It could lead to lose potential time series which could add value to the clustering. It is uncertain if the learned w is applied to the original dataset (D) or the new one ($Dnew$).

7. Significance

   I High impact
   II **Substantive impact**
   III Incremental value

8. Novelty

   I Highly Creative
   II **Interesting Approach**
   III Routine Exercise

9. Technical Merit

   I **Strong**
   II Acceptable
   III Questionable
   IV Major errors

10. Presentation

    I **Clear**
    II Needs improvement
    III Unreadable

11. Detailed Evaluation (Contribution, Pros/Cons, Errors); please number each point

(a) The problem and contributions are clearly stated in the section 1.

(b) It uses a large number of datasets during testing but it fails to share global statistics of the results.

(c) At the end of section 2.1, the sentence "A typical constraint is the *Sakoe-Chiba Band*, which express w as ..." needs a citation.

(d) Table 1 use `loopCount` variable in line 3. Should it be `index`?

(e) Function calls in table 2 and 3 are different. Parameter p in table 3 must be explained.

(f) In section 4.4, after figure 14, the sentence "Likewise, in an expanded tech report that augments the paper [12], ..." refers to the wrong citation. It should be [10].

(g) References [1], [17] and [27] do not follow the same author notation that the other references.

12. Revision Recommendation (Do you think the submission can meet SIGKDD standards with a limited revision?)

    I **Yes**

    II No

    III Already meets SIGKDD standards

13. If revision is recommended, list specific revisions you seek from the Authors

    - Elaborate on the issues discussed on item 6.

14. Your confidence in this review

    I Expert

    II High

    III **Medium**

    IV Low