1. [Paper Summary] What is the paper about? Please, be concise (3 to 5 sentences)

( Required, Visible To Authors During Feedback and After Decision Notification )

In this manuscript, the authors proposed a Generalized Multi-view Unsupervised Feature Selection (GMUFS) method for unsupervised feature selection and clustering. The authors argued that they proposed a novel unsupervised feature selection method in which the generalized multi-view information is employed and the Hilbert Schmidt independence criterion is introduced.

2. [Paper Strengths] Please discuss, justifying your comments with the appropriate level of details, the strengths of the paper (i.e. novelty, theoretical approach and/or technical correctness, adequate evaluation, clarity, etc). For instance, a theoretical paper may need no experiments, while a paper with a new approach may require comparisons to existing methods.

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The mathematical part of this manuscript is somewhat solid (but similar to the inference in the reference mentioned below).

3. [Paper Weaknesses] Please discuss, justifying your comments with the appropriate level of details, the weaknesses of the paper (i.e. lack of novelty – given references to prior work-, lack of novelty, technical errors, or/and insufficient evaluation, etc). Note: If you think there is an error in the paper, please explain why it is an error. Also remember that theoretical results/ideas are essential to CVPR (some theoretical papers may not need to have experiments). If the theory is novel and interesting, but the results did not outperform other existing algorithms, it is not necessarily a reason to reject. It is not appropriate to ask for comparisons with unpublished papers and papers published after the CVPR deadline. In all cases, please be polite and constructive. CVPR 2018 policy on dual submission and arxiv appears at: http://cvpr2018.thecvf.com/submission/main\_conference/author\_guidelines.

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The major problem of this manuscript is that the motivations and contributions are really limited in depth and width. The Generalized Multi-view Unsupervised Feature Selection (GMVUFS) has already been studied for several years. It is not newly proposed in this manuscript. Please read this paper [1]. Besides, the multi-view UFS has already been studied in [2,3,4,5], so the limitation 1) in the abstract is not valid. The MVUFS methods in these paper model the correlations in a nonlinear way, so the limitation 2) in the abstract is not valid, either. Hence, the first contribution of this manuscript mentioned in lines 115-118 is not valid anymore. Besides, the Hilbert-Schmidt Independence Criterion has already been used in feature selection [6], multi-view unsupervised feature selection [7], supervised dimension reduction [8,9] and unsupervised dimension reduction [10], so the second contribution mentioned in lines 118-122 of this manuscript is not valid. In my opinion, the contribution of this manuscript is not valid.

Some key arguments of this manuscript have no reference or example for validating. Examples include “However, direct utilization of these high-dimensional data usually suffers from high computation cost, heavy storage burden and, performance degradation.” and “However, correlation in practice is usually much more complex than linear correlation in most existing approaches.”

The analysis of the proposed method is rather limited, please make full use of the 8 pages (the length of the main paper excluding the reference is only 7 pages).

[1] Sharma A, Kumar A, Daume H, et al. Generalized multiview analysis: A discriminative latent space. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2012: 2160-2167.

[2] Tang J, Hu X, Gao H, et al. Unsupervised feature selection for multi-view data in social media. Proceedings of the SIAM International Conference on Data Mining. Society for Industrial and Applied Mathematics, 2013: 270-278.

[3] Feng Y, Xiao J, Zhuang Y, et al. Adaptive unsupervised multi-view feature selection for visual concept recognition. Asian Conference on Computer Vision. Springer, Berlin, Heidelberg, 2012: 343-357.

[4] Hou C, Nie F, Tao H, et al. Multi-view Unsupervised Feature Selection with Adaptive Similarity and View Weight. IEEE Transactions on Knowledge and Data Engineering, 2017.

[5] X. Wei, B. Cao and P. S. Yu, Multi-view unsupervised feature selection by cross-diffused matrix alignment, International Joint Conference on Neural Networks (IJCNN), Anchorage, AK, 2017, pp. 494-501.

[6] Song, L., Smola, A., Gretton, A., Bedo, J., and Borgwardt, K. Feature selection via dependence maximization. JMLR, 13:1393–1434, 2012.

[7] Meixiang Xu, Zhenfeng Zhu, rYao Zhao. Unsupervised Multi-view Subspace Learning via Maximizing Dependence. CCF Chinese Conference on Computer Vision. pp 137-148, 2017.

[8] Fukumizu, K., Bach, F. R., and Jordan, M. I. Kernel dimension reduction in regression. The Annals of Statistics, 37(4):1871–1905, 2009.

[9] Zhang Y, Zhou Z H. Multilabel dimensionality reduction via dependence maximization. ACM Transactions on Knowledge Discovery from Data (TKDD), 2010, 4(3): 14.

[10] Wang, M., Sha, F., and Jordan, M. I. Unsupervised kernel dimension reduction. In NIPS, 2010.

4. [Preliminary Rating] Please rate the paper according to one of the following five choices:

( Required, Visible To Authors During Feedback and After Decision Notification )

Oral

Oral/ Poster

Poster

Borderline

**Weak Reject**

Strong Reject

5. [Preliminary Evaluation] Please indicate to the AC, your fellow reviewers, and the authors your current opinion on the paper. Please tell the ACs what points you think have the most weight in your reviews and summary, and why.

( Required, Visible To Authors During Feedback and After Decision Notification )

The contributions mentioned in this manuscript have already been studied in some published paper mentioned above. The motivations mentioned in abstract are problematic. The manuscript has no insight to me and can be reject without any problem.

6. [Rebuttal Requests] Please pose questions you want to be answered in the rebuttal.

( Optional, Visible To Authors During Feedback and After Decision Notification )

7. [Confidence]

( Required, Visible To Authors During Feedback and After Decision Notification )

**Very Confident - to stress that you are pretty sure about your conclusions (e.g., you are an expert who works in the paper's area).**

Confident - to stress that you are mostly sure about your conclusions (e.g., you are not an expert but can distinguish good work from bad work in that area).

Not Confident” to stress that that you feel some doubt about your conclusions. In the latter case, please provide details.

8. [Confidential Comments to the PC/AC Chairs]

( Optional )