3. LIUdi_MeilanWANG_XuHAN_report

1. Summary
   This report studied the face order problem using manifold learning method and explored the influence of hyper parameters such as the number of neighbors.
2. Describe the strengths of the report.
   The report gives detailed comparisons of different algorithms and studied hyper parameters.
3. Describe the weaknesses of the report.
   No obvious weakness was found
4. Evaluation on quality of writing (1-5): 5
5. Evaluation on presentation (1-5): 4
6. Evaluation on creativity (1-5): 3
7. Confidence on your assessment: 2

1. Order the Faces via Manifold Learning
   Summary:
   Ordering the faces using different manifold learning techniques and compare their performance respectively.

   Strength of the project:
   The comparison done on different manifold learning methods is comprehensive. And the comparison of the models on total absolute error by varying the hyperparameter is meaningful.

   Weakness of the project:
   How do you account for the 'V' and 'Λ' shape of the graph given by LLE?

Evaluation on Clarity and quality of writing (1-5):	4
Evaluation on Technical Quality (1-5):	4
Overall rating:	4
Confidence on your assessment:	2

03. LIU, Di, Meilan WANG, Xu HAN. Order the Faces via Manifold Learning.

Summary: The authors use several manifold learning methods to order the face images. They find that LLE has the best performance. They also study how the performance depend on the number of neighbors.

Strengths: Many manifold learning methods have been used in the paper. The influence of the hyper-parameter is studied in the paper.

Weakness: Absolute error is used to evaluate the results. Is it possible that using a different measurement may lead to another conclusion?

Evaluation on quality of writing: 5

Evaluation on presentation: 4

Evaluation on creativity: 5

Confidence on your assessment: 2

03.LIUdi_MeilanWANG_XuHAN_report

Summary:
In this project, several manifold learning techniques were employed (e.g. Diffusion Map etc.). After comparing the results, they found that locally linear embedding performed better than others in which number of components and neighbors are 2 and 5, respectively. They also conducted experiments to compare the performance depending on hyper-parameter (number of components), by changing the number of neighbors.

Strength of the report:
The strength of this paper is that it employed many different models and uses some metrics to measure the performance.

Evaluation on Clarity and quality of writing (1-5):	5
Evaluation on Technical Quality (1-5):	5
Overall rating:	5
Confidence on your assessment:	2

Comment on paper 3

In paper three, Order the Faces via Manifold Learning, the author used several manifold learning techniques to order 33 images of the same person but with different face directions. After comparing the results, they found that locally linear embedding performed better than others in which number of components and neighbors are 2 and 5, respectively. They also conducted experiments to compare the performance depending on hyper-parameter (number of components), by changing the number of neighbors from 5 to 10. It was discovered that 5 neighbors provided the best model performance.

Strength: The strength of this paper is that the author uses many mathematics in the paper to describe the method and uses many pictures and charts to describe the result very clearly.

Weakness: The weakness of this paper is the mathematics is too much and it can be reduced.

Evaluation on quality of writing: 4. The writing is clear and there is no obvious mistake. Pictures and charts are well used in this paper.

Evaluation on presentation: 5. The paper is well organized and clear.

Evaluation on creativity: 3.

Confidence on your assessment: 3.

3. Order the Faces via Manifold Learning.

- **Summary of this report:** This project is intended to order 33 images of the same person but with different face directions. Several manifold learning techniques were employed (e.g. Diffusion Map, MDS, LLE, LTSAect.). The detail compilations among these techniques are given in the report.

- **Describe the strengths of the report:** Eight techniques are used to order 33 images of the same person, which is which provides an adequate theoretical basis for the data analysis.
- **Describe the weaknesses of the report:** The methods of these models are well described and the results are well demonstrated. But it would be better if the authors can add more discussions about the differences among the results obtained from different techniques.
- **Evaluation on presentation: 5**

  The presentation is well organized and the pronunciation is clear
- **Evaluation on Clarity and quality of writing (1-5): 5**

This report is well written and with a clear topic, convincing evidence, and logical organization.

- **Evaluation on creativity (1-5): 5**
- **Overal ratings: 5**
- **Confidence on your assessment: 3**

3 Order the Faces via Manifold Learning

3.1 Summary

Liu Di et al. 's work focus on the application of different manifold learning algorithm on ordering the face. The results show that only t-SNE doesn't have a good performance.

3.2 Strength and Weakness

Personally speaking, they have done an excellent job on the comparison part, data visualization and the analysis section. Each of the experiment is connected to each other, and the definition of the methods are explained well in the content. No weakness I can tell.

3.3 Score

3.3.1 Clarity and Quality of Writing

The structure of the report is convincing, the analysis part below each experiment is clear as well. They also included the future work they want to do. I will give them 4/5 on this aspect.

3.3.2 Presentation

Clear presentation and recording with their face. 5/5 on this aspect.

3.3.3 Creativity

The relative creativity can be the hyperparameter study. I will give them 4/5

3.3.4 Overall

4.3/5

03. LIU, Di, Meilan WANG, Xu HAN. Order the Faces via Manifold Learning.

In this work, authors used manifold learning methods to explore the face ordering task, the ordering performance evaluation and embedding visualization are conducted among 9 methods, further authors also discussed the influence of different neighbor number on ordering and low dimensional embeddings.

Strengths: This work is well written and presented, evaluations are complete and relatively thorough comparing to other groups in the same topic. It is a good work combining the efforts by three authors.

Weakness: No discussion on why t-SNE is not well performed in this task.

Evaluation on quality of writing (5): This poster is well organized, and figures are clear enough to demonstrate the author¡¯s idea.

Evaluation on presentation (4): Good presentation which clearly conveyed their idea and explain the experiment design and their conclusion.

Evaluation on creativity (4): Beyond comparing the ordering performance on 9 methods, authors also explore the relationship between parameters like number of neighbors on ordering performance and embeddings.

Confidence on your assessment(2)