MATH 6380Q Project 1 Peer Review

08. YU, Zhijie. Dream of Red Mansion Analysis.

[ Reviewer 1 ]

1. Dream of Red Mansion Analysis

Summary:

The study employed PCA and k-mean clustering to analyze the book, Dream of Red Mansion. In the analysis, the two main characters and three main storylines were successfully identified and accounted.

Strength of the project:

A very detailed and powerful step-by-step analysis using simple algorithms as PCA and k-mean clustering to dig out such meaningful and accountable results from the dataset.

|  |  |
| --- | --- |
| 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 |

[ Reviewer 2 ]

In poster eight, “Dream of Red Mansion Analysis”, author used Principal component analysis(PCA) and k-means clustering methods to analyze the character-event grouping problem in the novel Dream of Red Mansion. Author found out the main characters in this novel are Jia Baoyu and Wang Xifeng. And there are mainly three story lines driving the plot development including love story line, management aﬀair line and outer environment line. Author separate diﬀerent characters based on the events they involve and find first and second principle components by PCA. After analyzing the top2 principle components author reached the conclusion. And author uses K-clustering to make a further explanation to the conclusion.

The strength of this poster is author successfully makes data dimension reduction and get top2 principle components. And author also uses K-clustering method to explain the conclusion more clearly. The results are technically sound and reasonable.

The weakness of this poster is that the poster is not very good at typography.

Evaluation on Clarity and quality of writing: 4. The report is clearly written and the poster is well organized.

Evaluation on Technical Quality: 4.

Overall rating: 4.

Confidence on my assessment: 2.

[ Reviewer 3 ]

08. YU, Zhijie. Dream of Red Mansion Analysis.

The author used PCA and k-means clustering methods to analyze the character-event grouping problem in the novel Dream of Read Mansion.

The author processed the dataset by removing those characters involved in less than 4 events at first, which effectively reduce the computational cost. He also did analysis on the PCA of events and characters to get the top events and characters.

It is well written and organized. There are lots of figures in this report to help understand the results. Typo: Line 29 ‘detains’ should be replace by ‘details’.

The results are technically sound. Experimental results here are good enough to support the claims. The experimental results are easy to follow. Combing these two methods here, we can find the conclusions valid. One drawback is that the author did not touch on the weakness of the methods. And for reference, he should cite relevant raw paper of the two methods.

The overall rating is 4 and my confidence is 2.

[ Reviewer 4 ]

This report uses two methods to analyze the character-event matrix and get convincing conclusions. It shows rich information by the figures and tables. It would be better if more explanations are given in figure1.

Evaluation on Clarity and quality of writing: 5

Evaluation on Technical Quality:4

Overall rating:4

Confidence on your assessment:2

[ Reviewer 5 ]

Summary: In this project, Principal component analysis(PCA) and k-means clustering methods are adopted to analyze the character-event grouping problem in the novel Dream of Red Mansion.

Strengths: k-means clustering methods are used.

Weakness: N.A.

Evaluation on Clarity and quality of writing: 5.

Evaluation on Technical Quality: 5.

Overall rating: 5

Confidence on your assessment: 2

[ Reviewer 6 ]

7.1 Summary

For Yu Zhijie’s work, he constructed a thorough principle component analysis and K-means clustering for the Dream of Red Mansion character and event data. Characters analysis and events analysis are included in the content. He used K-means clustering for label the events for PCA projection map.

7.2 Strength and Weakness

Yu’s work is well-organized and the add-in of K-means clustering is reasonable. The strength of this report is its structure and the clear analysis process. The weakness of this report is that no parallel analysis included as well.

7.3 Score

7.3.1 Clarity and Quality of Writing

The structure of this report is good and the division of character analysis and event analysis really shows some insight for Dream of Red Mansion. I will give him 4/5 on this aspect.

7.3.2 Technical Quality

Yu has done a great job on the discussion and result part, easy to understand, and very reasonable logic. I will give him 4/5 on this aspect.

7.3.3 Overall

The overall score for this poster is 4/5.

[ Reviewer 7 ]

* **Summary of this report:** In this report, PCA and k-means clustering methods are used to analyze the connections between characters in the novel *Dream of Red Mansion*. The three main story lines are summarized in this report.
* **Describe the strengths of the report:** The PCA is correctly used. The first two principal components are used to analyze the story lines. Moreover, to better understand the character-event grouping problem in this novel, the other data analysis method, K-means clustering is also used.
* **Describe the weaknesses of the report**: It would be better if the main story lines are draw in illustration.
* **Evaluation on Clarity and quality of writing (1-5):** 5
* **Evaluation on Technical Quality (1-5): 4**

The deep learning method used in this report is highly technical.

* **Overal ratings: 4**
* **Confidence on your assessment: 1**

[ Reviewer 8 ]

• Summary of the report.

This paper uses Principal component analysis(PCA) and k-means clustering to analyze the character-event grouping problem in the novel Dream of Red Mansion.

• Describe the strengths of the report.

Clearly and detailedly written. Enough analysis of the results.

• Describe the weaknesses of the report.

The methods might be a little bit simple (I think).

• Evaluation on Clarity and quality of writing (1-5): Is the report clearly written? Is there a good use of examples and ﬁgures? Is it well organized? Are there problems with style and grammar? Are there issues with typos, formatting, references, etc.? Please make suggestions to improve the clarity of the paper, and provide details of typos.

5

• Evaluation on Technical Quality (1-5): Are the results technically sound? Are there obvious ﬂaws in the reasoning? Are claims well-supported by theoretical analysis or experimental results? Are the experiments well thought out and convincing? Will it be possible for other researchers to replicate these results? Is the evaluation appropriate? Did the authors clearly assess both the strengths and weaknesses of their approach? Are relevant papers cited, discussed, and compared to the presented work?

3

• Overall rating: (5- My vote as the best-report. 4- A good report. 3- An average one. 2below average. 1- a poorly written one).

4

• Conﬁdence on your assessment (1-3) (3- I have carefully read the paper and checked the results, 2- I just browse the paper without checking the details, 1- My assessment can be wrong)

2

[ Reviewer 9 ]

1. **Summary**

The author applied PCA to analyze the event as well as the characters in the novel dream of red mansion. The main characters and three main lines can be derived from the analysis.

1. **Strength of the report**

The objective of the analysis is clear and analysis including the event analysis and the character analysis are in detail.

1. **Weakness of the report**

The written style of the characters is not consistent: some of the characters are written in English and some are in Chinese.

1. **Evaluation of clarity and quality of writing**

The report is clearly written and well organized. The figures are clearly explained. The consistency of the writing can be further improved.

1. **Evaluation on technical quality**

The results are technically sound and no obvious flaws in the reasoning are found. However, this topic is kind of beyond the range of PCA analysis.

1. **Overall rating**

An overall rating of 4 is given.

1. **Confidence on your assessment**

2- I just browse the paper without checking the details

[ Reviewer 10 ]

*Summary:*

Used the PCA and k-means to analyze the main characters and main story lines in the novel *“Dream of Red”.*

*Strength:*

Tell a good story with the analyzed data, based on a good understanding of the novel, as well as dimension reduction application in data analysis. The cluster has good result.

*Weakness:*

Some analysis involves knowledge about the novel and assumptions not specified, maybe the writer knows too well about the novel before data analysis. The reasoning is good, and it would be more impressive if the writer do not mix the subjective understanding when analyzing.

*Evaluation on Clarity and quality of writing (1-5):4*

(format) Maybe there’s no need for a number before each line.

Since this report is conducted by one person, maybe replace ‘we’ with ‘I’ or ‘me’ in the report.

*Evaluation on Technical Quality (1-5):4*

The PCA part shows the writer’s good understanding of the novel, while the clustering part provides most important insight in this report. It would be better if told us how PCA part related to clustering (k-means), like if PCA is preprocessing before k-means.

*Overall rating (1-5): 4*

*Conﬁdence on your assessment (1-3): 2*

[ Reviewer 11 ]

Summary: This report uses PCA and k-means clustering methods to analyze the character-event grouping problem in the novel Dream of Red Mansion.

Strengths: The problem and results are interesting. The method is clear.

Weaknesses:

Writing: (5) The report is well-written and well-organized.

Technical Quality: (5) There is an obvious flow in the reasoning. The claims are well-supported by the experiments.

Overall rating: (5)

Confidence on my assessment: (2)