MATH 6380Q Project 1 Peer Review

2. Characters and Events Analysis of Journey to the West by PCA and SPCA

[ Reviewer 1 ]

1. Characters and Events Analysis of Journey to the West by PCA and SPCA

Summary:

In this study, both PCA and SPCA were employed to evaluate the correlation between characters and events of Journey to the West. It was found by PCA that the characters can be mainly divided into two groups. Moreover, using SPCA, the author was able to identify that Tang Seng, Monkey King, Sandy are the most important characters in the novel.

Strength of the project:

Generally clear flow of logic.

Weakness of the project:

In the analysis, three PCs were picked in both PCA and SPCA analysis, plotting a 3-dimensional PC projection of data can help the readers recognize the clusters more easily.

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

[ Reviewer 2 ]

In poster two, “Characters and Events Analysis of Journey to the West by PCA and SPCA”, author used PCA and SPCA to evaluate the correlation between characters and events of Journey to the West and reached a conclusion. Author used PCA to get the eigenvalues of the character-scene occurrence matrix and extract the top3 principle components and the related events scores on them. After analyzing the top3 principle components, author reached a conclusion that the novel has two clues of Tang Seng’s team and Tian Ting’s team and Pig, Sandy, Xuanzang and Monkey king are actually the main characters of the Journal to the west.

The strength of this poster is author successfully makes data dimension reduction and get top3 principle components. The results are technically sound and reasonable.

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

Evaluation on Clarity and quality of writing: 3. The report is clearly written. Suggestion is to have a try on using histogram and line chart to make the results clearer and making a good typesetting.

Evaluation on Technical Quality: 4.

Overall rating: 3.

Confidence on my assessment: 3.

[ Reviewer 3 ]

The author used PCA and SPCA to study the correlation between characters and events of the novel. Both PCA and SPCA exhibits that Tang Seng and his three followers are the most important characters in this novel. In addition, PCA also reveals the two clues of the novel and the relations between these characters.

When dealing with the data analysis of the raw data, the author always used the examples or reading experience of the novel in order to convince the readers.

However, there are not too many technical details or extensions in this report. And the author does not give a comprehensive evaluation on the methods he/she used.

This report is well organized by two different methods and their top 3 components. In each subsection, many examples are included. It may need some improvement in its writing. E.g. in Conclusion, Line 6, ‘They introduce in the whole novel’ may be confusing.

The results are easy to follow and understand. The story is quite clear. I think the result may be easy to replicate but the codes are not available. However, the author does not cover any strength/weakness evaluation.

Generally speaking, it can be rated as 4 and my confidence is worth 2.

[ Reviewer 5 ]

Summary: PCA and SPCA are used to evaluate the correlation between characters and events of Journey to the West.

Strengths: SPCA is applied with PCA.

Weakness: More pictures can help visualize.

Evaluation on Clarity and quality of writing: 4.

Evaluation on Technical Quality: 4.

Overall rating: 4

Confidence on your assessment: 2

[ Reviewer 6 ]

2 Characters and Events Analysis of Journey to the West by PCA and SPCA

2.1 Summary

For Lei Kang’s work, he adopted PCA and SPCA (Sparse Principle Component Analysis) on the character occurrence dataset for the famous novel, Journey to the West. Very detailed analysis on the first three main components for two methods are shown in his report. The conclusion for his work is that he can verify the main character by applying these two schemes, and can divide the main characters into two groups, Tangzeng group and God’s group.

2.2 Strength and Weakness

The strength of this paper is that he applied PCA and SPCA on a same dataset, which he can construct a comparison between these two scheme. However, the weakness of this paper is that he did not include a much comparison into his report. Instead of using figures for visualization, he only used number tables which can be somehow replicated.

2.3 Score

2.3.1 Clarity and Quality of Writing

The writing of Lei is well-organized as Han. However, there is some typos of this report which can be improved. Also, the role of comparison part can be enlarged in this report. I will give him 3/5 on this aspect. (Typo:All the” top3 ” should be ”top 3”)

2.3.2 Technical Quality

This report constructs an experiment for PCA and SPCA on the Journey to the West main character occurrence dataset. Both characters analysis and events analysis are well-rounded. The report is scientific, but I will suggest that he should include more figures for describing his comparison. And two method sections can be changed to make these two different from each other. And the parallel analysis can be included as well. I will give him 3/5 on this aspect.

2.3.3 Overall

The overall score for this poster is 3/5.

[ Reviewer 7 ]

**2. Characters and Events Analysis of Journey to the West by PCA and SPCA**

* **Summary of this report:** In this report, the PCA and SPCA are used to analyze the correlations between the characters and events in the book, *Journey to the West*. The characters in this novel are mainly divided into two groups from PCA analysis. While, from SPCA, they find the main characters in this novel.
* **Describe the strengths of the report:** The reports uses two models (PCA and SPCA) to analyze the correlations between different characters and find the main characters in this novel. The conclusion in this report is interesting.
* **Describe the weaknesses of the report:** In this report, the authors list the principal components and the corresponding events scores in several tables. However, it is not easy for readers to find the dependence and the trend of these data in tables. Using figures will make the trend of the data more intuitive.
* **Evaluation on Clarity and quality of writing (1-5): 4**

**Details of typos:** 1)This article hopes to explain the plot and paving of the novel from the perspective of characters and events. 2) and their importance are (is) far greater than those characters with opposite loads.

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

The PCA and SPCA are correctly used. However, it would be better if they provide more theoretical details of these two models.

* **Overal ratings: 4**
* **Confidence on your assessment: 3**

[ Reviewer 8 ]

• Summary of the report.

This paper uses PCA and SPCA to evaluate the correlation between characters and events of Journey to the West.

• Describe the strengths of the report.

Clearly and detailedly written. Enough analysis of the results.

• Describe the weaknesses of the report.

The methods (PCA and SPCA) 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?

4-

• 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+ -> 5

• 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 and SPCA to analyze the relations between the characters and events in Journey to the West. PCA separates the characters into two categories, the five main characters and the group which sets suffering to the character. SPCA further confirms the main characters.

1. **Strength of the report**

Both PCA and SPCA are applied to the dataset. The loadings on each principal components are explained in detail. The conclusion is reached by both methods.

1. **Weakness of the report**

The authors used tables to present the results which may not be that straightforward.

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

The report is clearly written and well organized. The tables are clearly explained. No obvious problems of the style, grammar, typo, and formatting are examined.

1. **Evaluation on technical quality**

The results are technically sound and no obvious flaws in the reasoning are found. The report provides the methods for analyzing similar dataset. However, the author did not compare the strength and weakness of the applied method.

1. **Overall rating**

An overall rating of 3 is given.

1. **Confidence on your assessment**

2- I just browse the paper without checking the details

[ Reviewer 10 ]

*Summary:*

Used PCA and SPCA to evaluate the relationship between characters and events of Journey to the West, and interpret the meaning of first three principal component for each method.

*Strength:*

Has reasonable inference for the meaning of the principal components, and good understanding of the dimension reduction methods.

*Weakness:*

The visualization could be better.

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

(format) The space before all the title may be not necessary.

Since the work is conducted by one person, maybe replacing ‘we’ with ‘me’ or ‘I’ is more accurate.

*Evaluation on Technical Quality (1-5): 3*

Though the method is simple, the writer shows a good understanding of it and it meets the requirement of the project.

*Overall rating (1-5): 3*

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

[ Reviewer 11 ]

Summary: The author uses PCA and SPCA to evaluate the correlation between characters and events of Journey to the West. It was found that the characters in this novel can be mainly divided into two groups.

Strengths: Clearly states the results. The results are interesting.

Weaknesses: No comparison between two different methods.

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

Technical Quality: (4) The author analyzes the top components of PCA and the results are well-supported by the experiments. PCA and SPCA are applied to the dataset but there is no comparison of the results.

Overall rating: (4)

Confidence on my assessment: (2)

[ Reviewer 12 ]

**Summary:** This project uses PCA and SPCA to analyze the character-event matrix in the novel journey to the west. By comparing the scores of different events on first three principal components and the coefficients of different characters, it draws a conclusion that these characters can be mainly divided into two groups.

**Strengths:** This project uses both PCA and SPCA to analyze the given data and get similar results. It carefully compares the scores of events and the corresponding coefficients of characters to get the final conclusion. The format of the paper is good.

**Weaknesses:** There are too many tables and too few figures in the paper which makes the results not easy to compare and understand. For PCA analysis, I think the principal component map is a must to explain the results. Besides, it doesn’t preprocess or analyze the initial raw data, which cannot clearly give us an intuition about the dataset itself and may involve some useless data or even some outliers in the following analysis.

**Evaluation on Clarity and quality of writing:** 3

Too few figures make the results not so clear to readers.

**Evaluation on Technical Quality:** 4

**Overall rating:** 4

**Confidence on your assessment:** 3