02. ZHOU Qiqi.

Summary:

The authors suggest using a distance function that incorporates class information and considers the order of classes. They then utilize this distance function in three-dimensional reduction techniques, specifically MDS, isomap, and t-SNE. The Hand-Written Digits dataset is used in their experiments.

Strength: The outcome of the MDS and isomap methods is deemed satisfactory, as the ordinal information is effectively retained.

Weakness: The t-SNE method did not yield satisfactory results, which could be attributed to the characteristics of the t-distribution.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 3

Overall rating: 4

Confidence on your assessment : 2

14. CAI Bibi; QIU Zhenyu; WANG Zhiwei.

Summary:

In their study of the NIPS words dataset, the authors employ latent Dirichlet allocation (LDA) to derive the word distribution. They then utilize clustering and dimension reduction techniques, including K-means, MDS, and t-SNE, to analyze the primary topics addressed in the papers, building upon this latent representation.

Strength: Supported by a sound theoretical foundation and visualizations of their findings, the authors effectively convey a comprehensive narrative regarding the evolution of NIPS papers.

Weakness: Perhaps include a concluding section that summarizes the findings and provides a platform for further discussion.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2

17. LI Qichao and HUANG Haohan.

Summary:

The authors analyze the NIPS papers dataset by initially examining the changes in selected keywords over time. They then utilize the Louvain and Leiden algorithms to determine any correlations between the research community and publication volume. Lastly, they utilize MDS to extract keywords from the papers.

Strength: The authors pose a question and employ the Louvain and Leiden algorithms to address it.

Weakness: The qualify of some figures need to be approved.

Evaluation on Clarity and quality of writing: 3

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2

16. Chris HC Nguyen and James M Shihua

Summary:

This study showcases the application of RPCA with an augmented Lagrange multiplier to isolate a video into distinct foreground and background components, which enables the identification and elimination of moving objects from the video background. The algorithm is implemented with Intel optimized Python and Numpy libraries, utilizing Intel MKL to optimize its performance. The video is represented as a matrix of N-pixels by M-frames, and the algorithm converges effectively within a few iterations.

Strength:

Using an augmented Lagrange multiplier, RPCA proves to be substantially more efficient than conventional techniques such as ADMM.

In addition, The algorithm converges swiftly within a small number of iterations, rendering it appropriate for real-time applications.

weakness

Optimal performance of this algorithm in various applications may require the regularization parameter, λ, to be tuned accordingly.

Evaluation on Clarity and quality of writing: 5

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2

13. LI Haobo, CHEN Zixin, TENG fei, SHENG Rui.

Summary:

This research suggests a visual analytics methodology that enables researchers to investigate the temporal evolution of word usage in academic papers. The dataset utilized is a co-occurrence matrix comprising 11463 words and 5811 NIPS conference papers from 1987 to 2015, which presents challenges such as sparsity and large search space. The study illustrates the advancement of word distribution in academic writing and performs experiments to forecast the likelihood of word occurrences in conference papers by utilizing the previous word distribution. The project employs a sunburst chart to organize the top 100 potential words and applies clustering algorithms to forecast word probabilities.

Strength:

The proposed visual analytics methodology furnishes a valuable tool for researchers to monitor alterations in language usage and adjust their writing style accordingly, which enhances their prospects of success in the publishing process. Secondly, Utilizing clustering algorithms to forecast word probabilities can aid researchers in anticipating frequent words or phrases in future papers, thereby offering valuable insights for academic writing. In addition, The utilization of word embeddings and visualization techniques, such as the sunburst chart and time series visualization, can provide a lucid and intuitive comprehension of the development of word usage over time in academic writing.

Weakness:

The clustering algorithms used for predicting word probabilities may not be precise in all cases and may overlook significant factors such as context and semantics. In addition, The project primarily concentrates on predicting word probabilities, which may disregard other significant aspects of academic writing, such as the paper's structure and coherence.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2