XIA Ruizhe SID:20807480

**02 Image Inpainting with PCA**

Summary: The author uses PCA to construct a dictionary on the hand-written digits dataset and then inpaint some distorted digits based on the learned dictionary.

Strength: The author notices some drawbacks of using PCA for inpainting, and provide some possible directions of improvement.

Weakness: I think using something that can be computed to evaluate the reconstruction is better than the eye norm.

Evaluation on Clarity and quality of writing: 3

Evaluation on Technical Quality: 3

Overall rating: 2

Confidence on your assessment : 2

**14 Topic Modeling For NIPS Words**

Summary: They analyze the NIPS words dataset. First, they use the latent Dirichlet allocation (LDA) to get the word distribution. Based on this latent representation, they further use clustering and dimension reduction methods, such as K-means, MDS, and tSNE, to analyze the main topics of the papers.

Strength: With solid theoretical background and visualization of their results, they tell a full story about the trend of NIPS papers.

Weakness: Maybe add a conclusion part to summarize the results and for more discussion.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2

**12 Statistical Analysis on Authors and Word Trend of NIPS Papers from 1987 to 2017**

Summary: They analyze NIPS papers dataset. They first track the evolution of some keywords. Next, they use Louvain and Leiden algorithm to find whether there is a correlation between the research community and the number of publications. Finally, they use MDS to extract the keywords from the papers.

Strength: They raise a question, and use the Louvain and Leiden algorithm to find the answer.

Weakness: The legend of Figure 3,4 is unclear.

Evaluation on Clarity and quality of writing: 3

Evaluation on Technical Quality: 4

Overall rating: 3

Confidence on your assessment : 2

**06 Explore and Play with SNPs Data for Fun**

Summary: The author uses PCA, MDS, and kernel-PCA to visualize the SNPs data. The author further uses the random projection for both PCA and MDS to compare the computation costs.

Strength: It provides detailed theoretical background. The figures are also well organized.

Weakness: It would be better if he or she tell a mitigation history based on the results.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 4

Overall rating: 3

Confidence on your assessment : 2

**04 Understanding US Crime Data by Feature Analysis**

Summary: They try to find the core factors that can predict the US crime rate. They conduct different approaches: PCA, MLE, JSE, Lasso and Tree models.

Strength: At the beginning, they provide some information about their datasets. For each method, they provide the corresponding figures with detailed explanations.

Weakness: They can explain more about the tree methods. They can also have more discussion about the difference of the Lasso and Tree models.

Evaluation on Clarity and quality of writing: 4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment : 2