01

Summary of the report

This mini project introduces a novel distance function that incorporates class information and the order of classes and applies it to three dimensional reduction techniques: MDS, isomap, and t-SNE. The Hand-Written Digits dataset is used to evaluate the effectiveness of the proposed distance function.

Describe the strengths of the report

The topic is rather novel, and the author offers us plenty of visualizations as well as a brief introduction.

Describe the weaknesses of the report

The performance on t-SNE is not satisfactory which can be further explored.

Evaluation on Clarity and quality of writing:4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment: 2

02

Summary of the report

This work proposes using principal component analysis (PCA) to generate a dictionary for image inpainting on a dataset of handwritten digits. The proposed approach successfully restores semantic content for moderately corrupted images

Describe the strengths of the report

This work proposes an interesting topic that use the major components as basis to conduct the task of inpainting.

Describe the weaknesses of the report

The color theme and the structure of the report can be altered for readers.

The quality of inpainting can be further improved

Evaluation on Clarity and quality of writing:4

Evaluation on Technical Quality: 5

Overall rating: 5

Confidence on your assessment: 2

03

Summary of the report

This work analyzes several factors that significantly influence the U.S. crime rate, including population demographics, police staffing, mayoral tenure, and social welfare. Dimensionality reduction and visualization techniques revealed clusters of cities with similar attributes, allowing for regression modeling to determine the main contributors to average crime crime.

Describe the strengths of the report

The. structure and visualization of this report is quite good.

The writing is also good.

Describe the weaknesses of the report

This work gives us detailed analysis, however deeper insight and possible solutions could be given.

Evaluation on Clarity and quality of writing:5

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment: 2

06

Summary of the report

The author uses dimensionality reduction of SNP data revealed genetic signatures of past adaptations and relationships between genotypes and mitigation history. The author utilizes principal component analysis and multidimensional scaling to identify linear influences on the genome.

Describe the strengths of the report

The exploration is interesting, and several methods are used.

The part of random projection is very efficient.

Describe the weaknesses of the report

The writing can be improved.

Evaluation on Clarity and quality of writing:4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment: 2

05

Summary of the report

The authors find 24 variables related to crime rates and contributing factors to 2-3 principal components using PCA. PCA efficiently condensed over 90% of information while enabling insight, serving as a useful tool for studying influences on crime. Results show crime depends on police staffing, population attributes, and other elements, with PCA identifying the most significant contributors.

Describe the strengths of the report

The authors give the 3-d visualization.

Several methods are applied.

Describe the weaknesses of the report

There too many texts on the report, may be authors could highlight the key point.

The plot of PCA components could be shown.

Evaluation on Clarity and quality of writing:4

Evaluation on Technical Quality: 4

Overall rating: 4

Confidence on your assessment: 2