* **Dimensionality Reduction and Classification on Hand-Written Digits**

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1. Summary: Visualization and Classification of 16x16 hand-written image dataset. The project uses PCA, PFA and t-SNE for dimensionality reduction and Random Forest for classification.
2. Strengths: Good Comparison of Visualization techniques PCA, MDS and t-SNE.
3. Weakness: The is not a clear explanation of PFA method mentioned in section 2. Mathematical notation is not used to describe the left and right singular vectors for MDS and PCA since it depends on how the data matrix is represented (i.e. data matrix X can be either a n\*d or d\*n). The report mentions Horn’s parallel analysis but there is no explanation on how they perform it and it does not show the result of parallel analysis.
4. Evaluation on Clarity: 3 points. The metrics used for comparing different classification algorithms are not explained. No mathematical notation has been used to explain representation of the data, and for calculating PCA, MDS, parallel analysis. PFA is not clear to someone who is not familiar with this before.
5. Evaluation on Technical Quality: 3 points. In section 4, classification results for Random Forests is shown but they mention that it beats SVM, logistic regression, LDA without showing the actual results for SVM, logistic regression and LDA which is misleading. Moreover, numerical results and reasoning for choosing 26 PCA components and 200 PFA components is missing.
6. Overall Rating: 3
7. Confidence: 3