* **Summary of the report.**

This report tries to identify the art fraud with Raphael’s painting. They use multi-scale image crop to do data augmentation and use Scattering net and ResNet-18 to do feature extraction. They a choose PCA to do feature visualization and train with different classifiers and evaluate them.

* **Describe the strengths of the report.**

They choose a much harder that Mnist dataset to do the project and try different methods to extract the features. They also have used multi-scale features to solve this problem, which is not mentioned in the project requirements.

* **Describe the weaknesses of the report.**

1. The setting of experiments seems not very detailed. They do not show how to do cross validation. It seems that they just divide the paintings with labels into train set and validation set. However, as mentioned in the requirement, leave one out is a better way for evaluation.

2. The comparison between ResNet-18 and Scattering net seems not reasonable. I think that you could also combine data augmentation with Scattering net. Also, I do not know why you choose MSE as metric to do comparison.

3. The final results seems not good enough comparing to the example poster offered by prof Yao. In that poster, they have achieved 80% higher leave one out cross validation accuracy. Also, in the visualization part, the points seem not well separated. They should also try some other dimension reduction methods like t-sne. But it seems that the reason is the feature extraction step is not good enough.

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

4

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

3

* **Overall rating**:

3- An average one

* **Confidence on your assessment**

3- I have carefully read the paper and checked the results