# Review on Group 8

## Summary

Python notebook format was adopted by group 8 to complete the first project. In this notebook, both scattering MLP modal and pre-trained deep neural network VGG19 was applied on Raphael's painting dataset to extract features. The deep learning model performs much better than the scattering net model because it is faster and achieve 100% accuracy in both training and validation in a few epoch. Data augmentation with random crop and random flip of the original images was used to improve model's robustness. Unsupervised learning PCA was used to visualize the extracted features and the first two PC have less than 30% variance only. The supervised learning SVM model gives a result that all disputed paintings belong to Raphael and it is completely different from the result predicted by VGG19 that all disputed paintings are not Raphael's work.

## Strengths

Both scattering net and pretrained deep neural network were used to extract features of Raphael's painting dataset. Data augmentation was tried in this notebook. Unsupervised learning method PCA was applied to visualize the extracted features. The objective and the logic of this notebook is quite clear. Comparison between scattering MLP model and VGG19 and SVM model was made and a simple conclusion was drawn.

## Weaknesses

No Leave-one-out cross validation in this notebook.
This notebook is composed of python codes mostly. More description and explanation should be added such as the objective, the methodology of this project. Many grammar problems and typos in this notebook.

## Clarity and quality of writing

3
This notebook is composed of python codes mostly. More description and explanation should be added such as the objective, the methodology of this project. Many grammar problems and typos in this notebook.
'the deep learning model perform' should be performs;
'Using transfoer learning';
'acheaving 100% in a few epoch" ……

## Technical quality

4
As mentioned before, no leave-one-out cross validation is shown in the notebook.

## Overall rating
2

## Confidence on my assessment
2