

The goal of data mining in this project, is to predict the age group (under 40 or above 40) of covid-19 cases based on the city mobility info., weather, and measures during the onset dates.

After applying the 3 different algorithms, we get this:

<i>Algorithm</i>	<i>Accuracy</i>	<i>Precision</i>	<i>Recall</i>	<i>Time</i>
Decision Tree	67.00%	73.66%	85.47%	0.21 sec
Gradient Boosting	71.77%	73.19%	96.86%	43.03 sec
Random Forest	72.73%	72.98%	99.46%	1.75 sec

From the result above, we can conclude that:

1. All 3 algorithms provide acceptable accuracy, so the model is good classified, well balanced and not skewed or no class imbalance.
2. All 3 algorithms provide good precision, so our prediction of age group based on other measures is valid.
3. All 3 algorithms provide good recall, so we capture as many true positives as possible.
4. The Gradient Boosting cost much longer than the other two models, which is costly to use.

As a result, I am sure that:

1. People who are aged above 40 have significant different patterns of lives during covid-19 pandemic from those who are aged under 40.
2. They have different opinion and reactions toward covid-19. The measures of city mobility info., weather, and measures during the onset dates (e.g., protect, restrict, control, stay-at-home) contribute to the differences.