**Lesson 01 Discussion**

An over-fit machine learning model can seriously limit its ability to generalize. Think of a scenario where an over-fit model can have serious consequences in terms of impact on people. This undesired effect on people can arise in many forms, ethical lapses, safety, health, etc. Write a description of your scenario and the problem(s) it might create.

To receive credit post you thought and then comment on at least one other post.

At my previous position (GE Aviation) one time we were working on a prediction model for critical issues happening at the High Pressure Compressor (HPC) which for this particular family of engines was the first component to fail if there was any failure. Initially trying to get the best model possible it was decided to use a very complicated model with many DoF, trying to maximize the performance. During the first reviews we were asked to compare the results using unseen data not only the training data that we have been using up to that point to verify the performance of the model. As you might imagine there were very few cases of engine failures in our data set (as they are not very common), and our model was able to predict every single one of them, but when exposed to new data we realized that the model was over fitted. This let us see that if we would have put this model into production the way it was it would have been a safety problem as this model was following every single data point of our training data set. The problem this model could have created was that airlines would be removing their engines later than actually needed for an overhaul on their core (HPC + High Pressure Turbine) which could have resulted in a potential safety problem during flight.