1. **PROJECT SUMMARY**

To solve Performance Rating prediction in Employee Performance Analysis Project, I use several techniques in Data Preprocessing and Machine Learning phase. In Data Preprocessing step, I use IQR Range to Remove Outlier from dataset, Convert PerfomanceRating datatype to String/Object datatype, Do Feature Selection through Correlation Heatmap to find high correlation features between each other and to the PerformanceRating feature, and Last thing is Do SMOTETomek Technique in Resampling Method of Train dataset to solve imbalanced dataset.

After I have cleaned and well prepared dataset without Outlier and with balanced dataset, I trained it to machine learning model with XGBoost, SVC, RandomForest,and ANN Algorithm. Those algorithm model also already hyperparameter tuned by RandomizedSearchCV to find best parameter of each algorithm model, so that the model can learn with highly performance.

For evaluation model, I use classification report with focus on the accuracy model and confusion matrix of each model that have trained in previous step. From evaluation, it can be concluded that the best algorithm to predict performance rating are XGBoost and RandomForest.