

# Predictive analysis using Machine Learning Algorithms.

## Abstract

Machine Learning is a branch of artificial intelligence that leverages data to imitate the pattern by which a human brain learns, in the process improving accuracy. Statistical principles are used to process data and learn from it efficiently. Machine Learning algorithms are extensively used to predict future outcomes based on past experiences that were recorded in a meticulous manner. These past experiences or data can help us to deduce preliminary insights about the data and what it represents. The current paper discusses certain Machine Learning algorithms where the prime objective is to classify the inputs into one of the two categories. The dataset in focus is the employee attrition dataset that gives various insights regarding the presumable reasons behind an employee leaving the job. The factors such as accuracy, precision score, recall score and f1\_score for Random Forrest, XGBoost, Adaboost, Gradient boosting and Decision Tree Classifier have been ascertained and compared. Furthermore, Hyperparameter tuning, using the 'RandomSearchCV' python library is also implemented on the better performing algorithms, with the goal of achieving better performance.

**Keywords:** Machine Learning, Random Forrest, XGBoost, Adaboost, Decision Tree, Gradient Boost, Hyperparameters, RandomSearchCV.

## Work Plan

