MODEL SELECTION

Dataset:

- Feature Columns – Numerical Values
- Target Column – Categorical (Yes or No)

For binary classification tasks like predicting class (Yes or No), you can consider using various machine learning and deep learning models. Here are some efficient models you can explore:

Machine Learning Models:

1. Logistic Regression: Logistic Regression is a simple and commonly used algorithm for binary classification tasks. It models the relationship between the features and the target class using a logistic function.
2. Random Forest: Random Forest is an ensemble learning method that combines multiple decision trees to make predictions. It is known for its robustness and ability to handle complex datasets.
3. Support Vector Machines (SVM): SVM is a powerful algorithm for binary classification. It aims to find the optimal hyperplane that separates the two classes with the largest margin.
4. Gradient Boosting Methods: Gradient Boosting methods like XGBoost or LightGBM are effective for binary classification tasks. They create an ensemble of weak prediction models and combine them to make accurate predictions.

Deep Learning Models:

5. Feedforward Neural Networks: Feedforward Neural Networks, also known as Multi-Layer Perceptrons (MLPs), can be used for binary classification tasks. They consist of multiple layers of interconnected neurons and are trained using backpropagation.
6. Convolutional Neural Networks (CNN): If your dataset includes images or spatial information, CNNs can be effective. They are specifically designed for processing grid-like data and have achieved great success in various computer vision tasks.