

## Experiment. No. 12

Title : MINI Project 2

problem statement :

Build a machine learning model that predicts the type of people who survived the Titanic shipwreck using passenger data i.e, name, age, gender, socio-economic class, etc.

objective : To build a machine learning model.

theory :

Here's a step-by-step guide on how to approach this problem using python and some popular libraries.

1. Data collection & understanding :

start by obtaining the Titanic dataset which contains passenger information and survival labels. You can find datasets on website like kaggle.

2. Data Pre-processing :

clean the data by handling missing values outliers & redundant features

perform the feature engineering to create relevant features or transform existing ones.

encode categorical variable into numerical format using techniques like one-hot encoding.

### 3. Data splitting

split your dataset into a training set and test set. This allows you to evaluate your model's performance on unseen data

### 4. select a machine learning algorithm :

choose a classification algorithm suitable for this problem. common choices include Decision Trees, Random Forest, Logistic Regression, support vector machines or Gradient Boosting

### 5. Model Training

Fit your chosen algorithm to the training data. The model learns patterns from the data

### 6. Model Evaluation :

Evaluate your model's performance using metrics like accuracy, precision, recall, F1-score and the ROC-AUC-score. cross validation can help in assessing how well the model generalizes to new data.

### 7. Prediction -

Use your trained model to make predictions on new, unseen data or the test set

### Conclusion :

Hence, we have successfully implemented the mini project.