
# *Python ML Classification Project*

## *Titanic Survival Analysis*

## *Logistic Regression*

## Project Description:

In this particular project, we are using a dataset that contains information like, Passengerid, Survived,pclass, sex, Age, sibsp, parch, ticket, fare, cabin, em barked. and using that data we are going to predict the survived passengers.

However, before you go ahead and make a prediction, it is advised that you first pre-process the data, since it may contain some irregularities and noise.
In addition, try various tricks and techniques in order to gain the best accuracy in your predictions.

## Data Details:

| | |
|---|---|
| **Passengerid :** | Self Explanatory |
| **Survived** | Self Explanatory |
| **pclass** | Ticket class |
| **sex** | Sex |
| **Age** | Age in years |
| **sibsp** | # of siblings / spouses aboard the Titanic |
| **parch** | # of parents / children aboard the Titanic |
| **ticket** | Ticket number |
| **fare** | Passenger fare |
| **cabin** | Cabin number |
| **embarked** | Port of Embarkation |

## Part-1: Data Exploration and Pre-processing

1) load the given dataset
2) print all the column names
3) describe the data
4) check the null value
5) if there are Null values, Handle these

## Part-2: Working with Models

1) Create the target data and feature data where target data is survived
2) Split the data into Training and testing Set
3) Create a Logistic regression model for Target and feature data
4) Display the Confusion Matrix
5) Find the Accuracy Score
6) Find the Precision Score
7) Find the Recall Score
8) Find the F1 Score
9) Find the probability of testing data
10) Display ROC Curve and find the AUC score