MINI PROJECTS Presentation

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Mini Projects

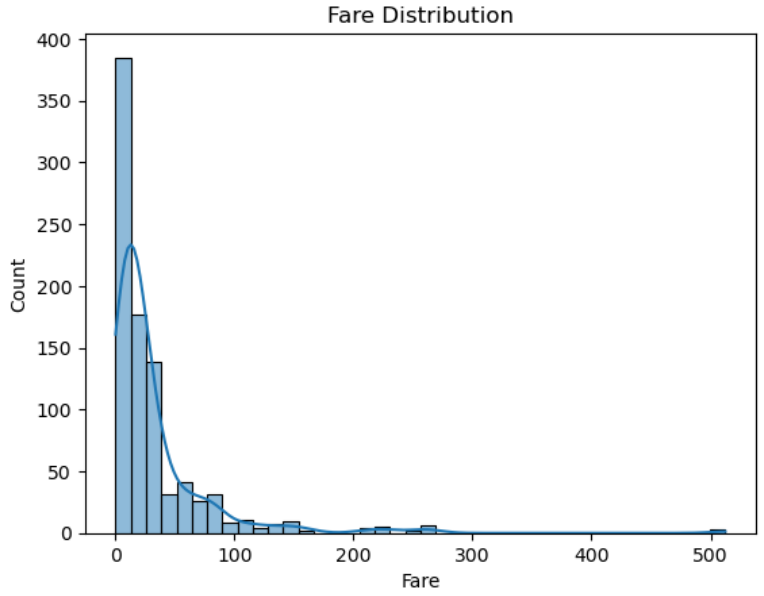
- Titanic Survival Prediction
- Medical Insurance cost prediction

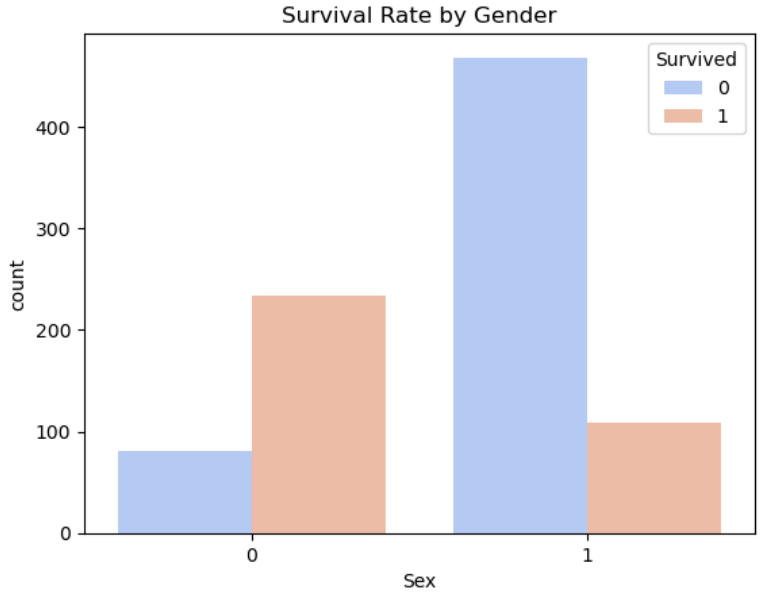
Name	Variable explanation
pclass	Passenger Class (1 = 1st;2 = 2nd;3 = 3rd)
Survived	Survival (0 = no, 1 = yes)
Name	Passenger name
Sex	Gender of passenger
Age	Age of passenger
Sibsp	(number of siblings/spouses aboard)
Parch	(number of parents/children aboard)
Ticket	Ticket number
Fare	Passenger fare (£)
Cabin	Cabin
Embarked	Port of Embarkation (C = Cherbourg; Q = Queenstown; S = Southampton)

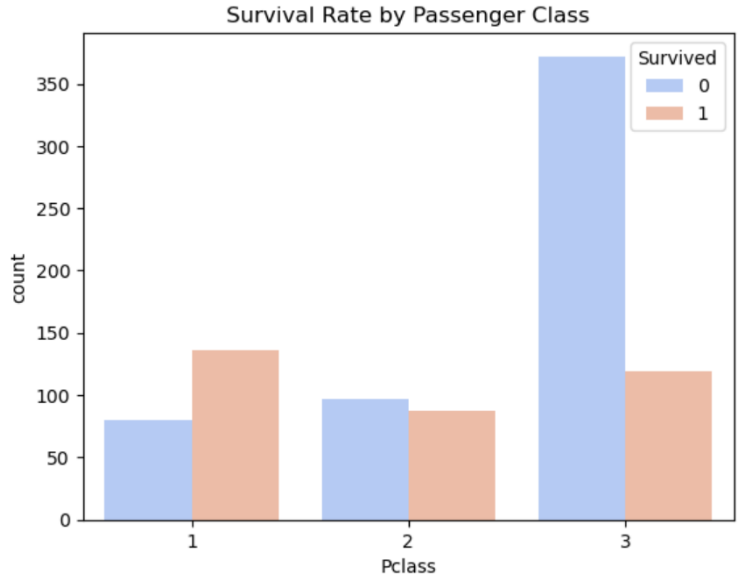
Titanic Survival Prediction

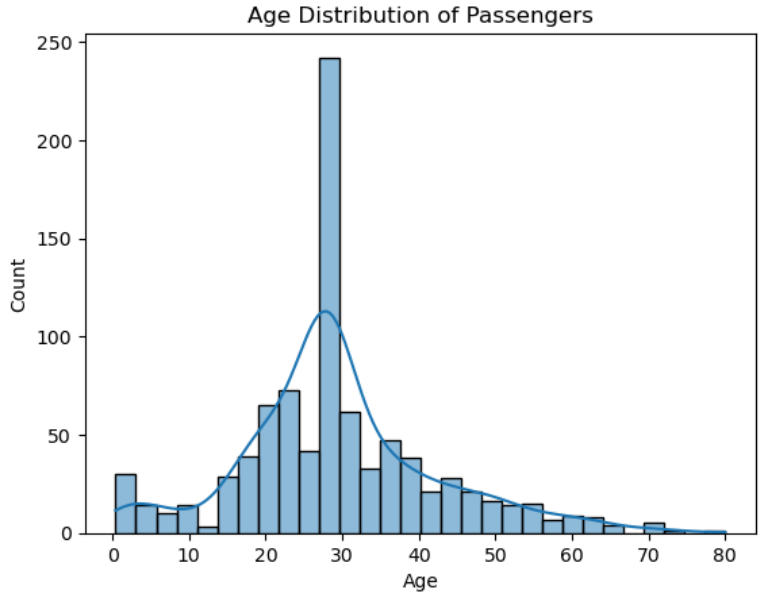
- The main objective of the analysis is to predict the survival status of passengers on board the Titanic using various features, including age, gender, ticket class, and other variables.

Key Inferences made during Analysis

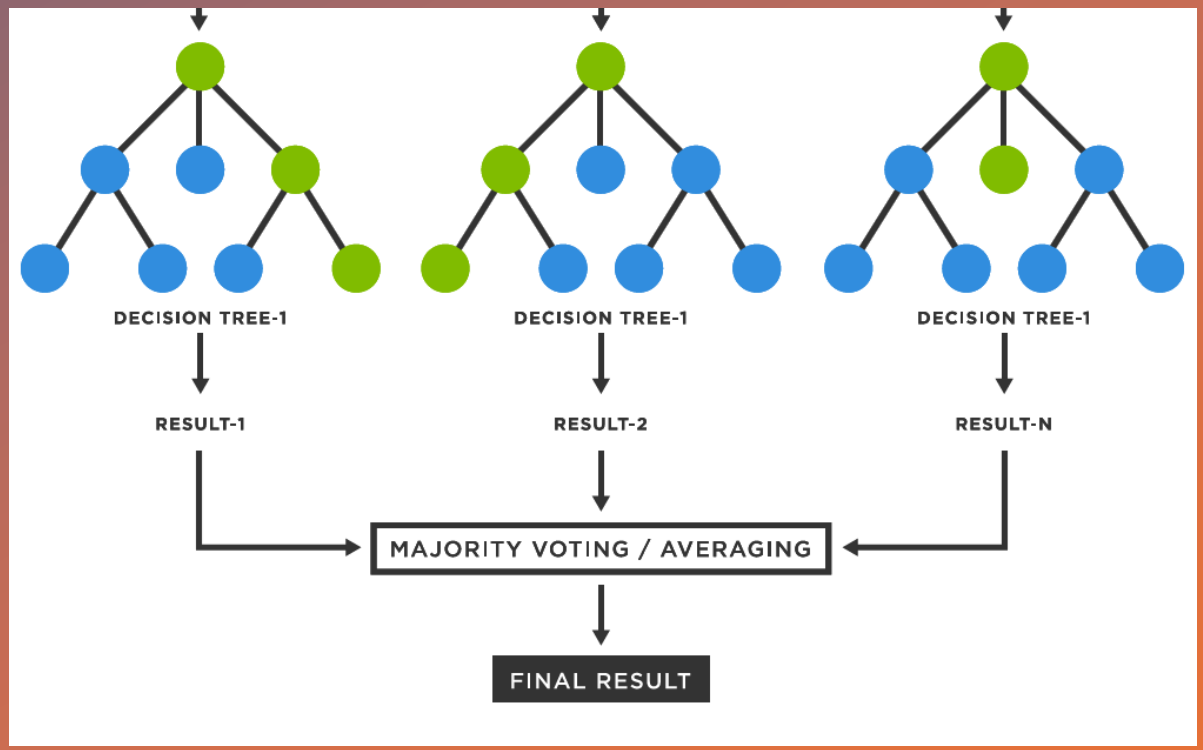






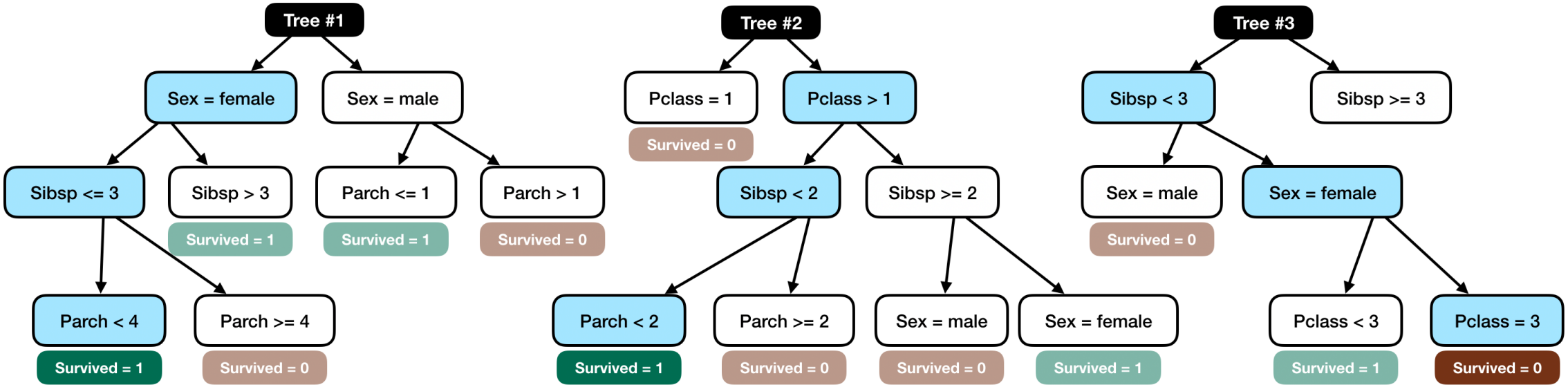


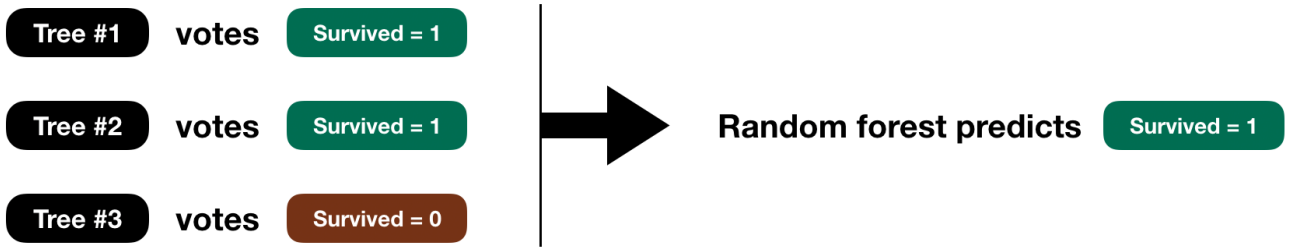
Algorithm used: Random Forest



Did the passenger survive?

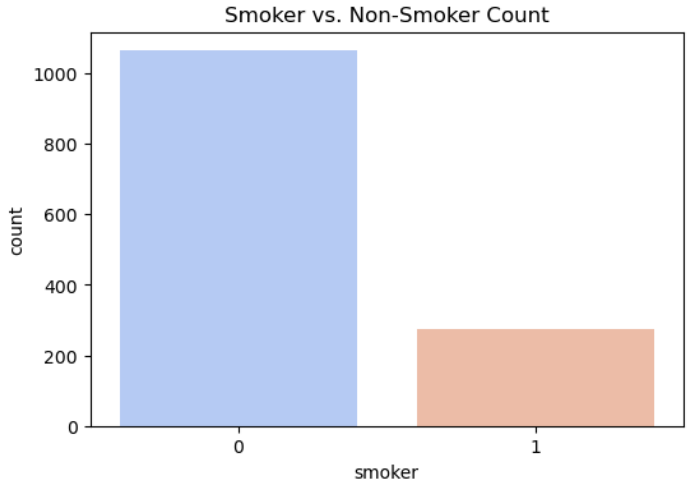
PassengerId	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
893	3	Wilkes, Mrs. James (Ellen Needs)	female	47	1	0	363272	7		S

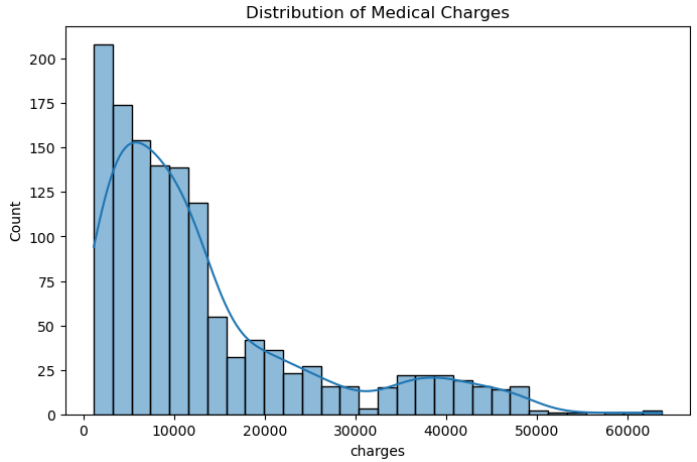


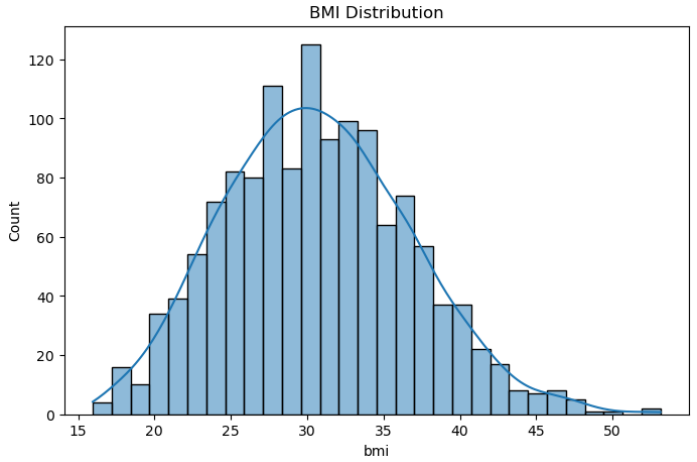


Name	Variable Explaination
Age	How old person is?
Sex	Gender of the Personal
BMI	Body Mass Index of the person
Children	How many children the person have
Smoker	Whether the person smokes of not?
Region	The region where the person lives.
Charges	Medical Cost or Insurance charge

- This data is used to predict how much a new person might pay for medical insurance based on their details.





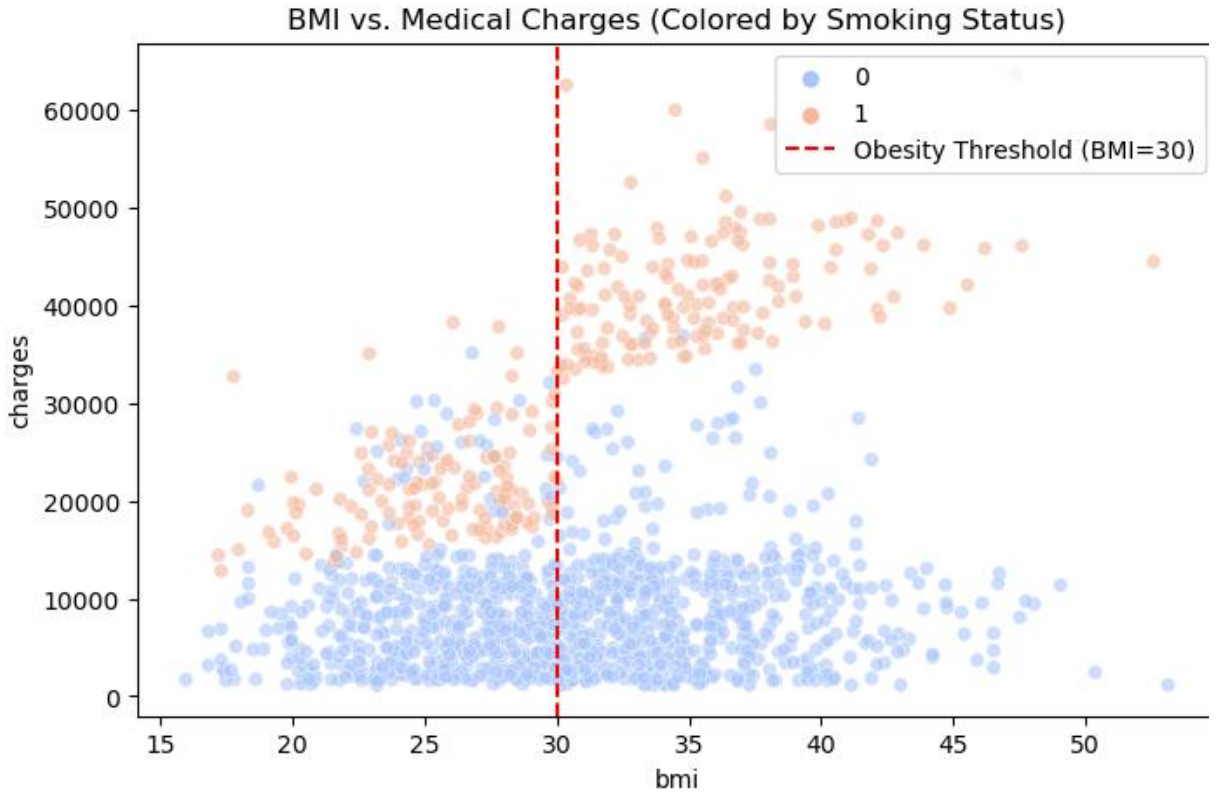


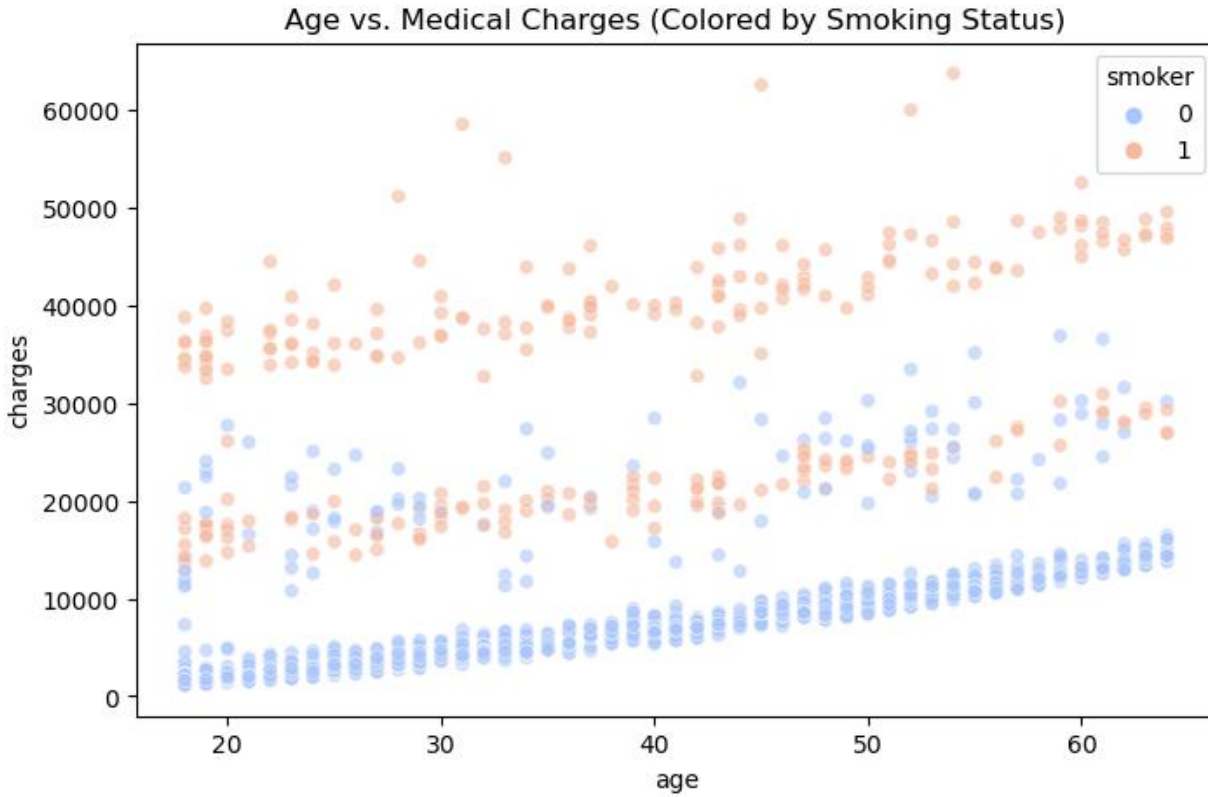
Key Inferences Made during Analysis

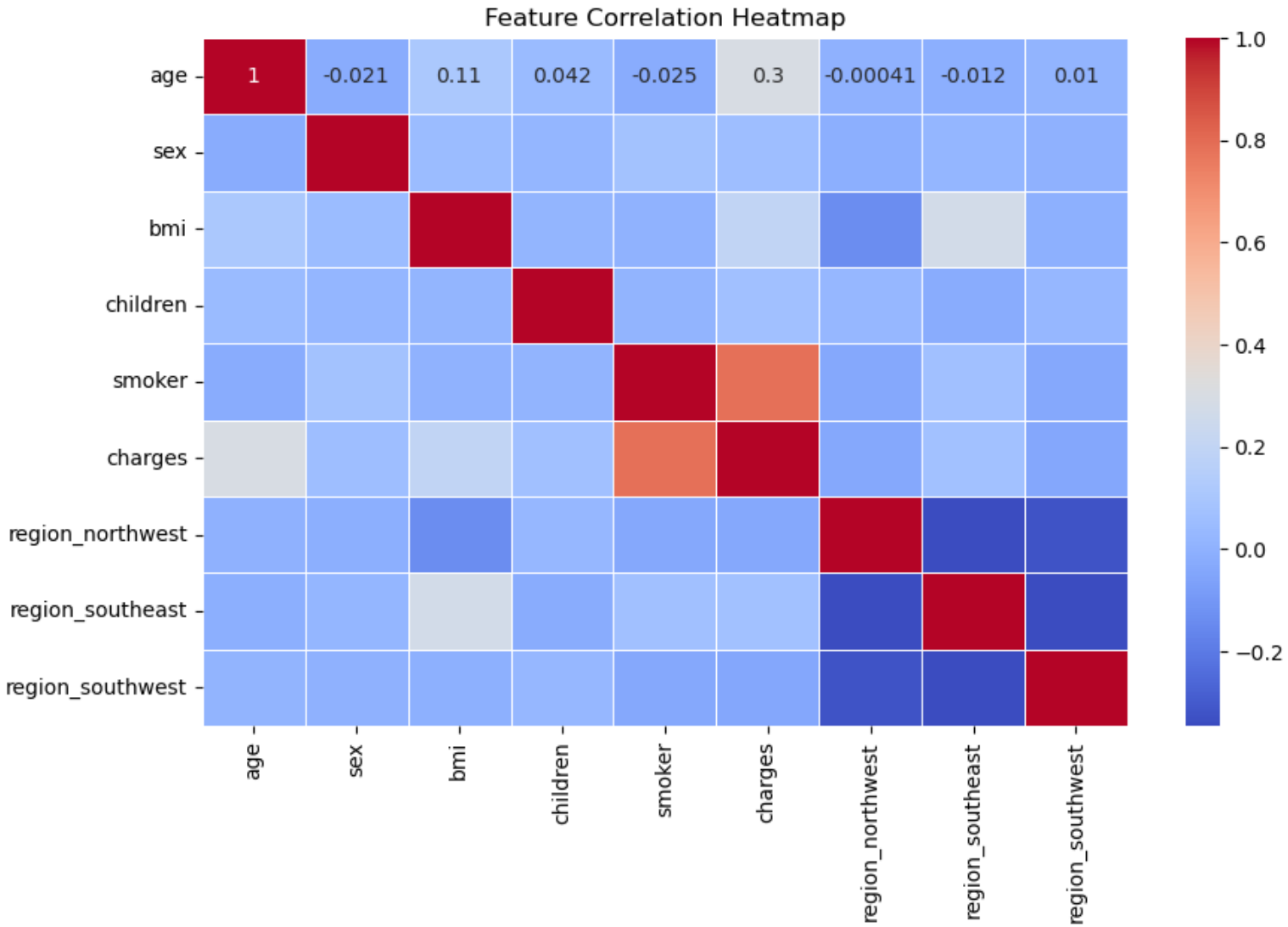
- More non smokers than smokers
- Most Individuals BMI lies between 25-40
- Less individuals have higher medical charges

Impact of Age, Smoking and BMI on Medical Charges

Obese and older individuals who happen to be smokers have higher medical charges.



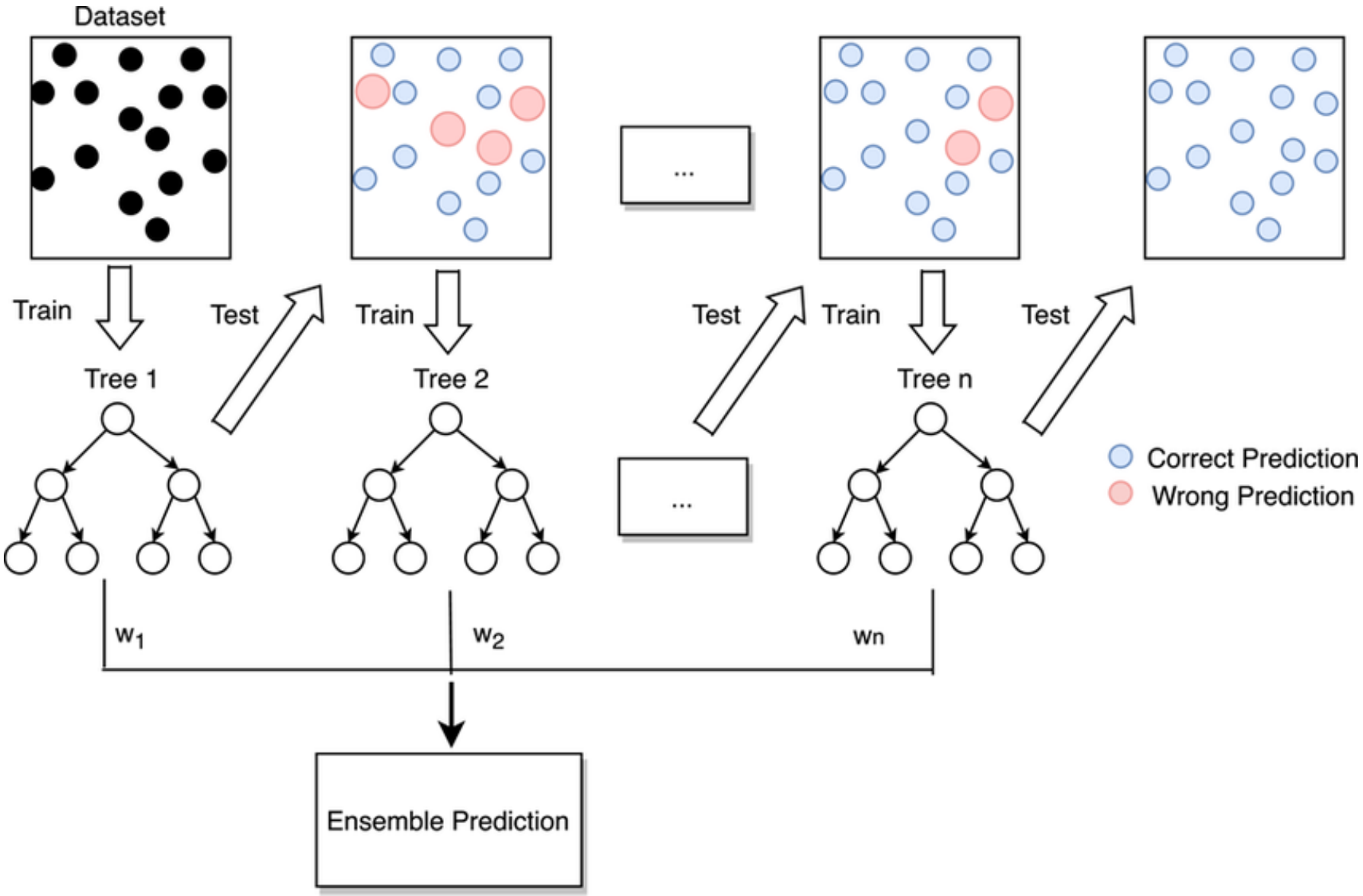


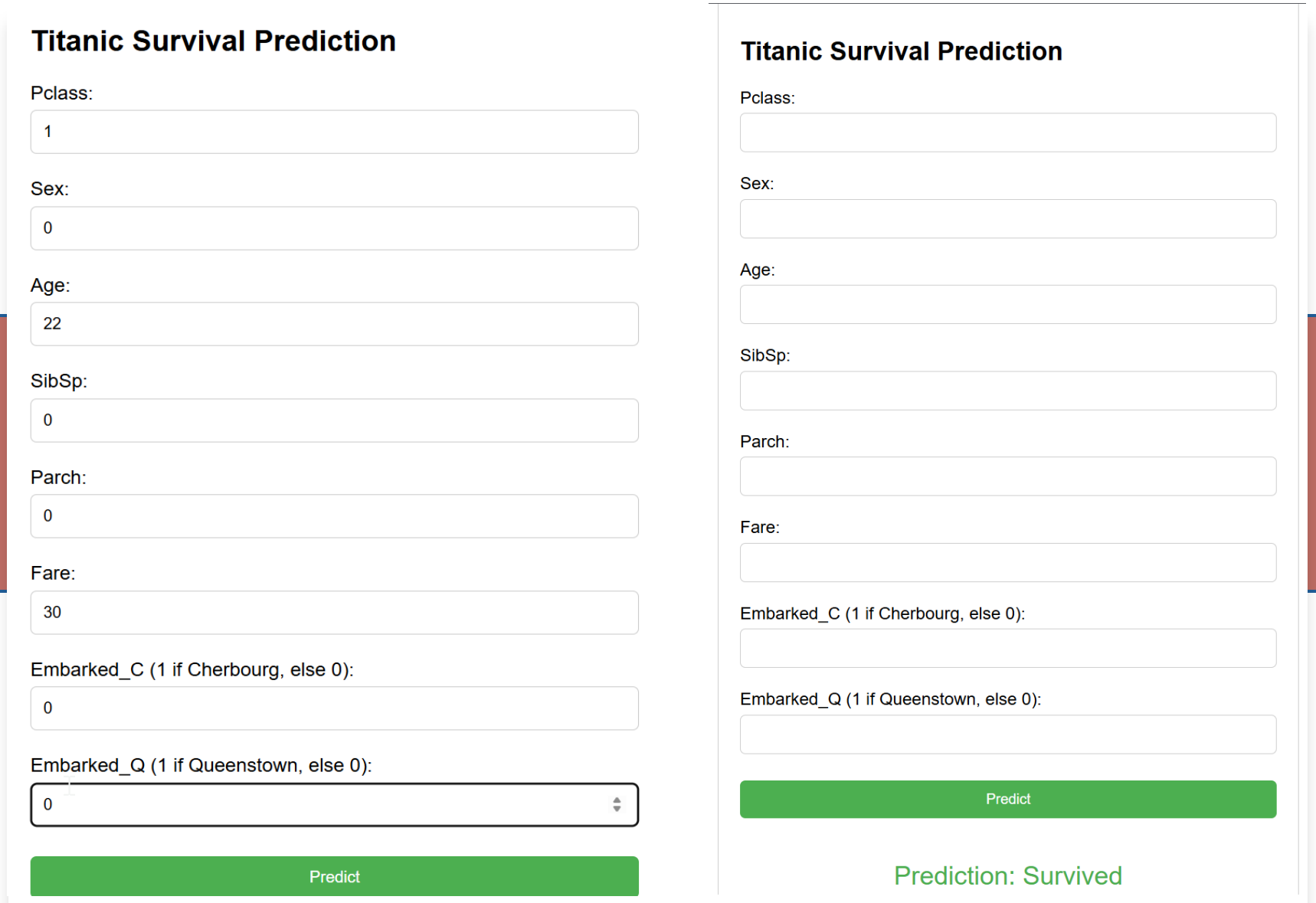


Impact of Age, Smoking and BMI on Medical Charges

Smoking has the highest positive correlation with charges, followed by BMI and age.

Algorithm used: Gradient Boosting Classifier





Inputs & Outputs

Medical Insurance Cost Prediction

Age (e.g., 22, 45, etc.):

22

BMI (e.g., 23, 30 ONLY INT):

30

Number of Children:

2

Smoker (0 for No, 1 for Yes):

1

Region Southeast (1 if Southeast, else 0): *put 0 in other fields*

1

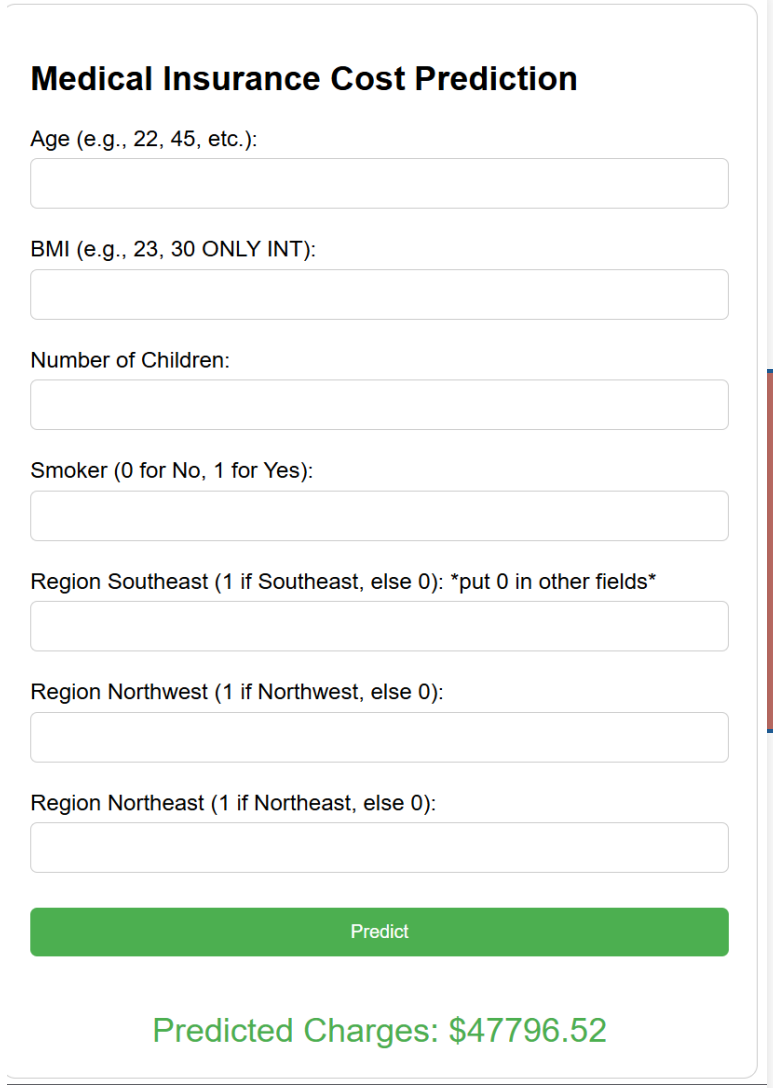
Region Northwest (1 if Northwest, else 0):

0

Region Northeast (1 if Northeast, else 0):

0

Predict



Inputs & Outputs

Thank You !