

Model Comparison Report

Fit and error measures

Model	Accuracy	Accuracy_No	Accuracy_Yes	F1	AUC
Hotel_Logistic_Regression	0.9136	0.9701	0.6348	0.9492	0.9639
Decision_Tree_Redeemer	0.9209	0.9507	0.7739	0.9524	0.9350

Model:

model names in the current comparison.

Accuracy:

overall accuracy, number of correct predictions of all classes divided by total sample number.

Accuracy\_[class name]:

accuracy of Class [class name] is defined as the number of cases that are **correctly** predicted to be Class [class name] divided by the total number of cases that actually belong to Class [class name], this measure is also known as *recall*.

AUC:

area under the ROC curve, only available for two-class classification.

F1:

F1 score,  $2 * precision * recall / (precision + recall)$ . The *precision* measure is the percentage of actual members of a class that were predicted to be in that class divided by the total number of cases predicted to be in that class. In situations where there are three or more classes, average precision and average recall values across classes are used to calculate the F1 score.

Confusion matrix of Decision\_Tree\_Redeemer

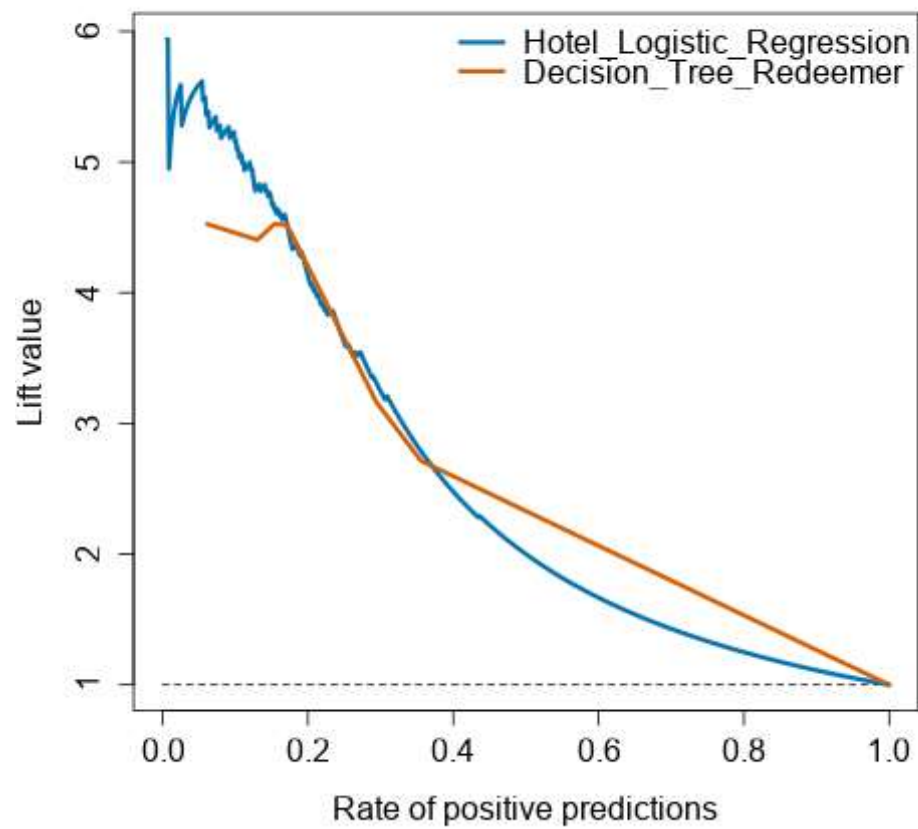
	Actual_No	Actual_Yes
Predicted_No	540	26
Predicted_Yes	28	89

Confusion matrix of Hotel\_Logistic\_Regression

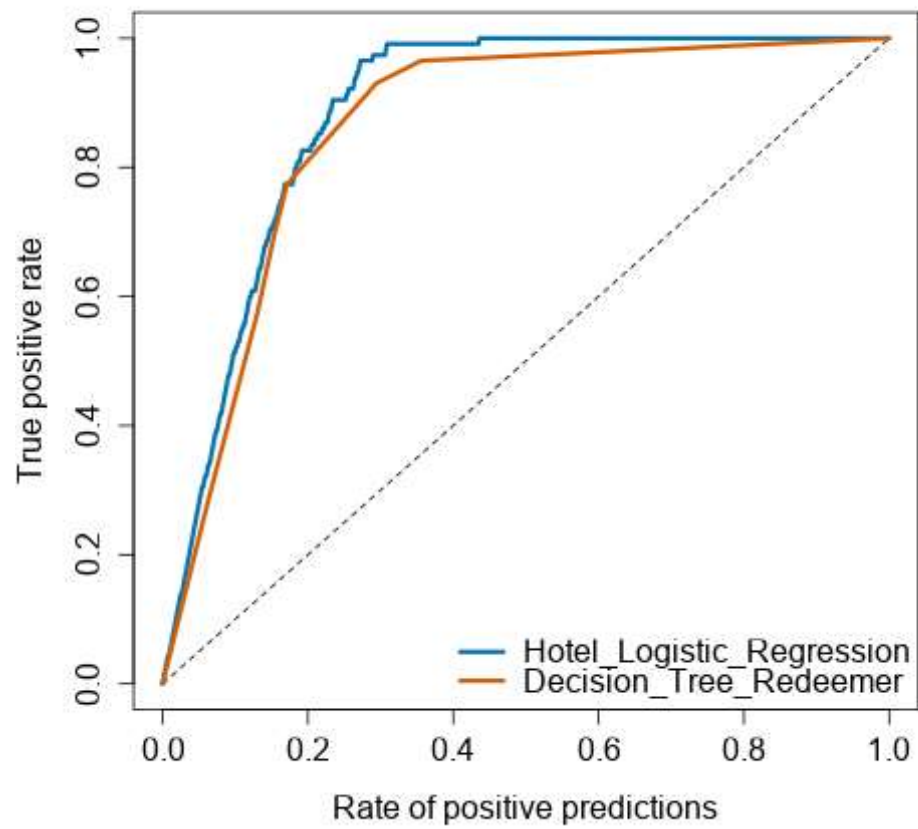
	Actual_No	Actual_Yes
Predicted_No	551	42
Predicted_Yes	17	73

Performance Diagnostic Plots

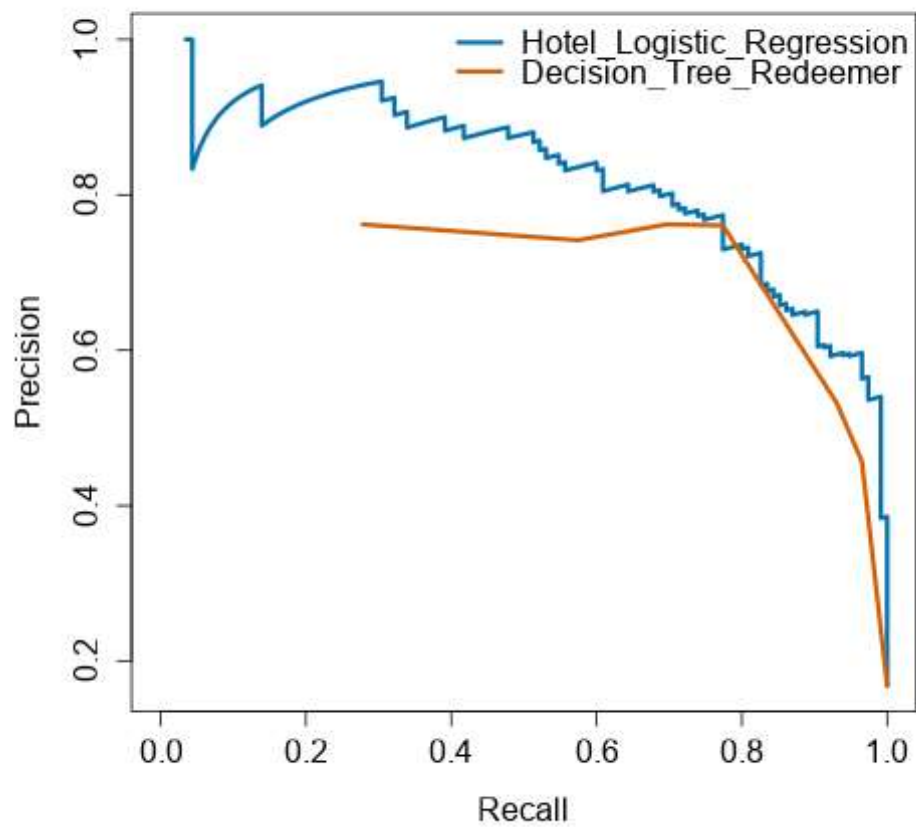
Lift curve



Gain chart



Precision and recall curve



ROC curve

