

Advertisement Click Prediction

Assignment : Machine Learning

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Click Predictions

Based on the
Data Analysis,
most of the
advertisement
clicks are
originated
from

Peak Days – Monday, Tuesday and Wednesday

Peak Hours - 8 AM to 5 PM

Banner Position - 0

Device Type – 1

Connection Type – 0

Category C1 – Type 1005

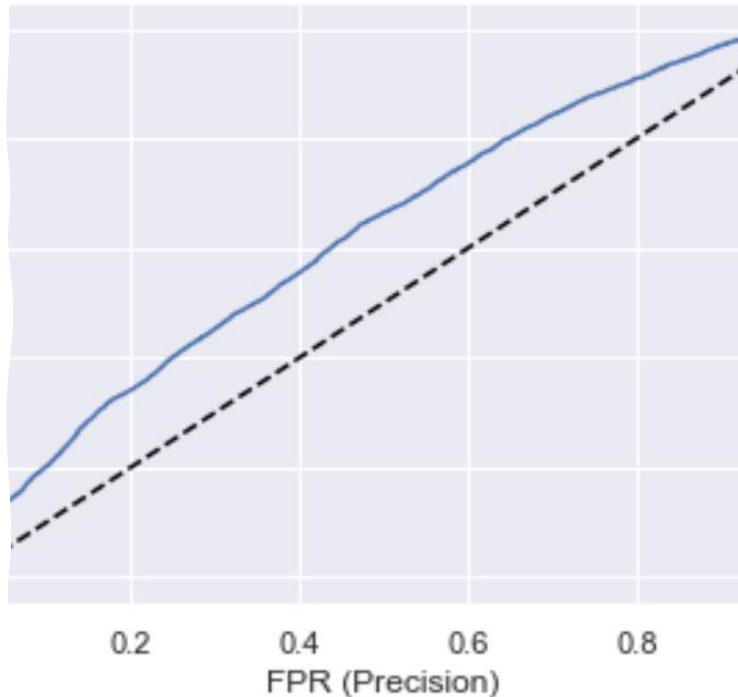
Category C16 - Type 50

Category C15 - Type 320

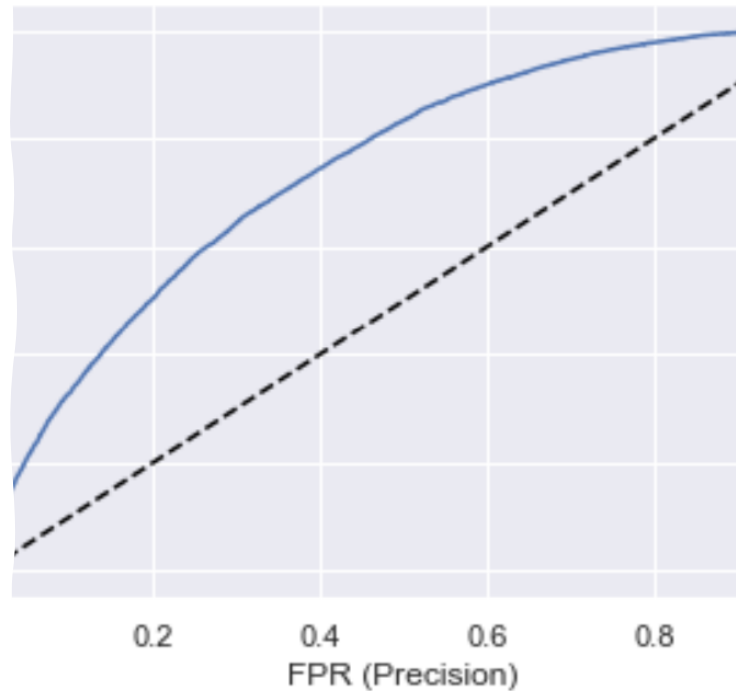
Higher AUC - Better performance

Random Forest has the best performance

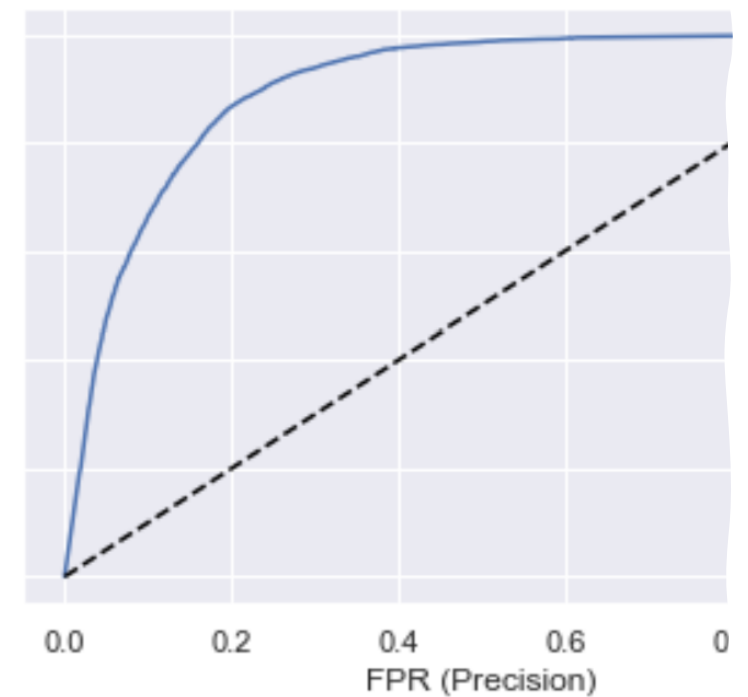
Logistic Regression ROC curve



XGBoost ROC curve



Random Forest ROC curve



Model Comparison

In Random Forest

- Accuracy - 83% of the Predictions are accurate including add click or no click
- Precision – Out of all positive clicks identified, 79% are right
- Recall - 90% of True add clicks are identified correctly

Model	Accuracy	Recall	Precision	F1 Score	ROC AUC
Logistic regression	0.575594	0.515287	0.590081	0.550153	0.577151
Randomforest	0.831796	0.904785	0.791210	0.844195	0.839063
XGBClassifier	0.673749	0.697079	0.669019	0.682761	0.673995