PREDICITVE MODELLING TO PREDICT CUSTOMER CHURN RATE FOR A TELECOM CO.

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OVERVIEW

This project analyses different aspects about a customer's account at a fictional telecommunications company, SyriaTel, to help SyriaTel predict whether or not they will
lose a customer. I have used the following algortihms to build the models: Logistic Regression, KNearest Neighbors, Decision Tree and Random Forest.

BUSINESS PROBLEM

SyriaTel is a ficitonal telecommunications company which is trying to predict whether or not a customer will stop doing business with them. Being able to predict this will help them retain more customers, reduce the cost of acquiring new customers and maintain their competitive
edge by maintaining a considerable portion of the market share.

MODELLING SUMMARY

	Model	Accuracy	F1 Score
0	LogisticRegression	0.77	0.51
1	KNN	0.84	0.59
2	KNN_Tuned	0.89	0.63
3	DecisionTree	0.91	0.72
4	DecisionTree_Tuned	0.92	0.74
5	RandomForest	0.92	0.74
6	RandomForest_Tuned	0.94	0.81

The best performing model was The Random Forest Model, which Was recommended for use by The telecom. company

CONCLUSION AND NEXT STEPS

- SyriaTel can successfully use the Random Forest model to predict their churn rate.
- SyriaTel should closely monitor changes in their data that might affect the predictions that the model is able to make.
- Most models had the risk of overfitting. SyriaTel should aim to collect more information about their customers that can possibly help predict churn better, eg Customers' age, gender, profession.

THANKYOU!!!