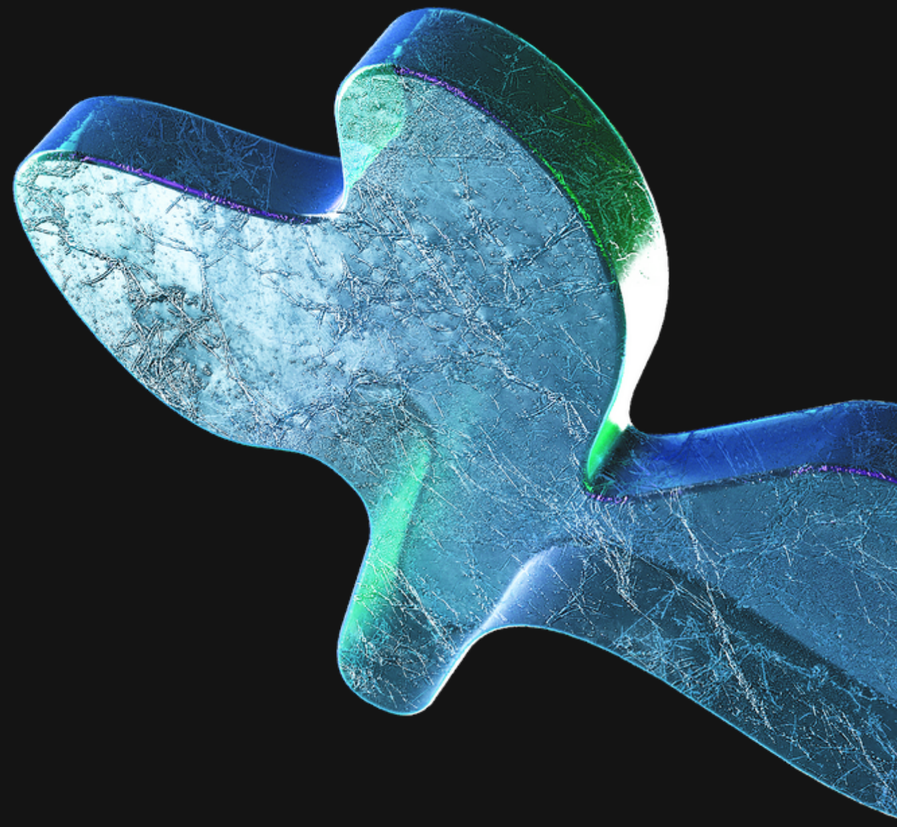
MINI PROJECT

Customer Churn Prediction



Done by-

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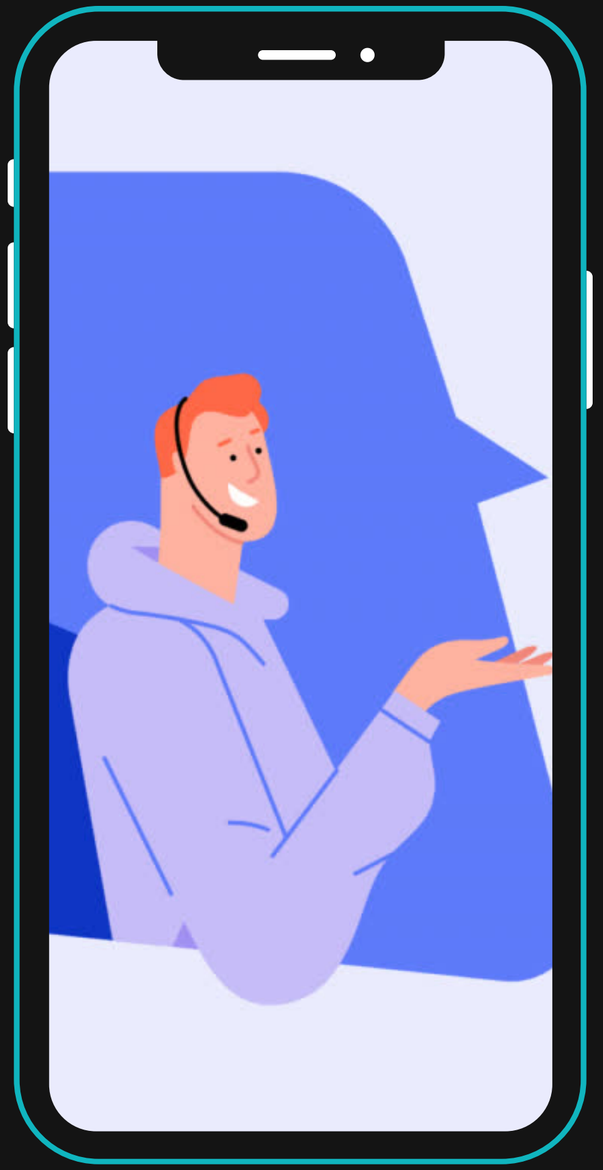
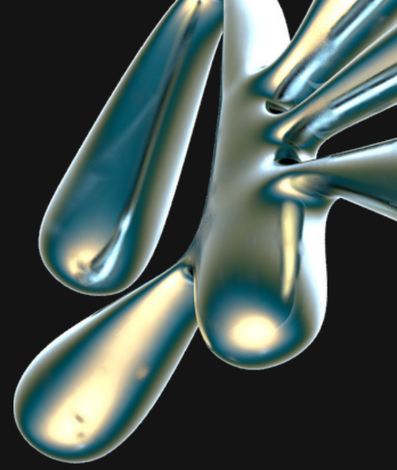
Using Python



What is Customer Churn?

It is when a customer decides to discontinue the use of a service provided by a firm.

Why Is Customer Retention Important?



- It's crucial since acquiring new consumers is more expensive than keeping the ones you already have.

- In fact, a 5% improvement in client retention alone can boost profits by at least 25%. This is because returning clients are likely to spend 67% more money on the goods and services provided by your business.

- As a result, your business will spend less on the operating expenses associated with trying to find new clients. Because they've already made up their minds, existing customers don't need to be persuaded to choose your business over rivals, saving you time and money.

ABSTRACT

Customer churn is always one of the things that is very essential especially in telecommunication industry because to understand and analyze trends of the customers is quite unpredictable; Are they going to unsubscribe from the firm or not. This is where Machine learning algorithm helps companies in predicting customers behaviours, which helps companies to take appropriate action.

PROBLEM STATEMENT

INTRODUCTION

- Customers have a variety of option to select between telecom industry making the annual churn rate of telecommunication business between 15-25 percent which is highly competitive.
- Individualized customer retention is tough because most firms have a large number of customers and can't afford to devote much time to each of them. The costs would be too great, outweighing the additional revenue. However, if a corporation could forecast which customers are likely to leave ahead of time, it could focus customer retention efforts only on these "high risk" clients. The ultimate goal is to expand its coverage area and retrieve more customers loyalty. The core to succeed in this market lies in the customer itself.
- A cool fun fact - "Did you know that attracting a new customer costs five times as much as keeping an existing one?"
- To reduce customer churn, telecom companies need to predict which customers are at high risk of churn.
- To find any signs of churn a company must develop a holistic view and their interactions with the services provided by the company including store/branch visits, product purchase histories, customer service calls, Web-based transactions, and social media interactions, etc.
- By analysing their customers well, these businesses may stand against their fellow competitors but also grow and thrive forward. Thus the company's key focus for success is retaining customers and implementing a effective retention strategy.

From Where Did We Get Our Dataset?

- This Dataset is created by IBM Business Analytics.
- It indicates which customers have left, stayed, duration of their stay (in months) and for which service(s) they have signed up for.
- This dataset is based on California.

MORE ABOUT THE DATASET

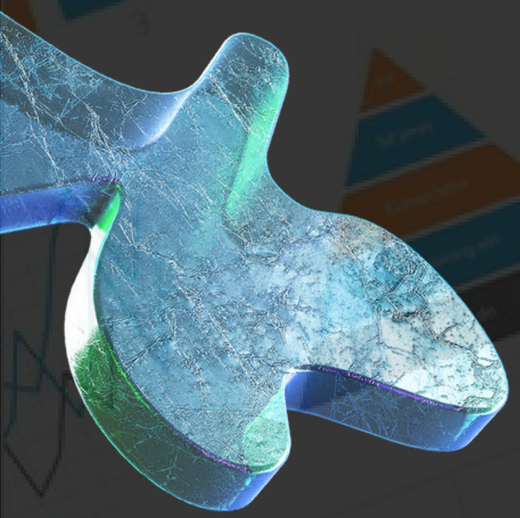
- Customers who left within the last month – the column is called Churn
- Services that each customer has signed up for – phone, multiple lines, internet, online security, online backup, device protection, tech support, and streaming TV and movies
- Customer account information – how long they've been a customer, contract, payment method, paperless billing, monthly charges, and total charges
- Demographic information about customers – gender, age range, and if they have partners and dependents

Why This Dataset?

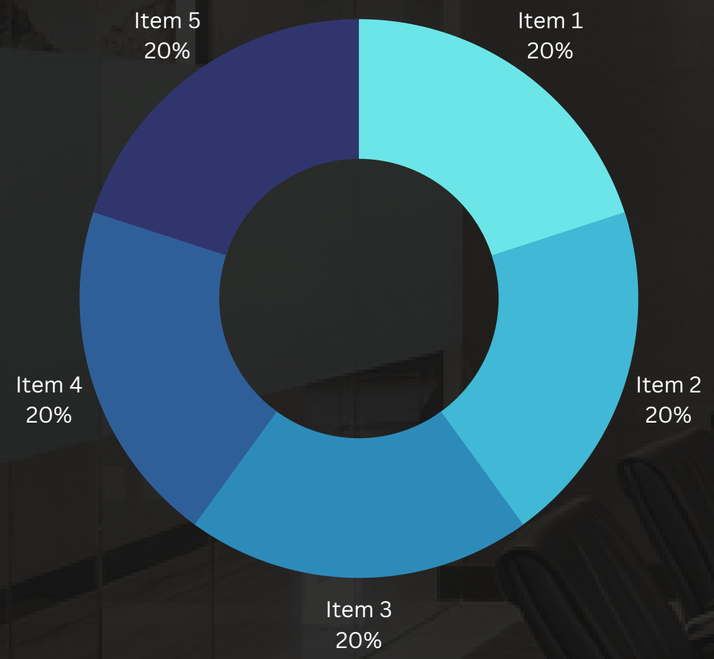
- Well, this dataset was perfect for us, as it has all that needed we needed to perform Data pre-processing , Data exploratory analysis and apply machine learning algorithms to predict customer Churn.

- The features included if the customer has opted for which services. Additionally the Amount they spent Monthly and totally was given, making it an ideal dataset for us.

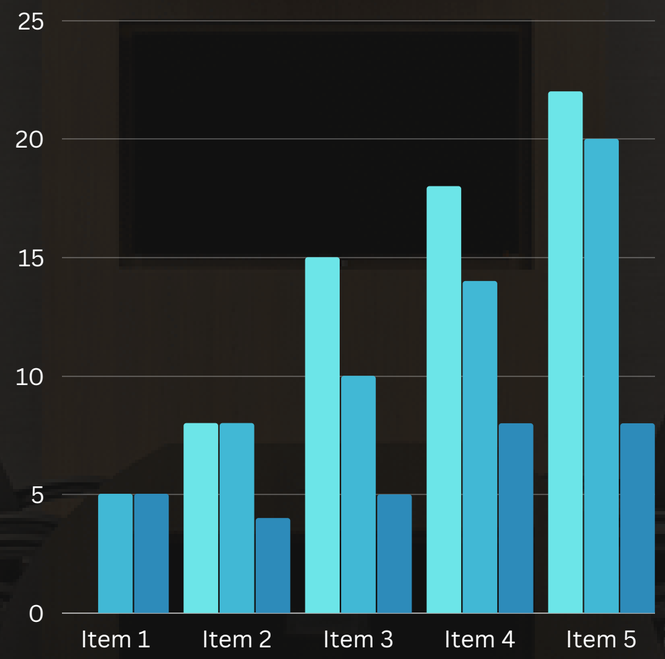
WHICH DATA VISUALIZING TOOLS DID WE USE?



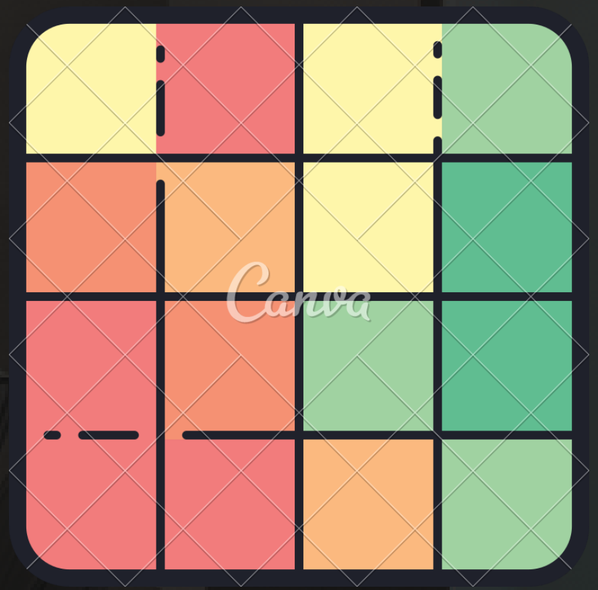
PIE CHART



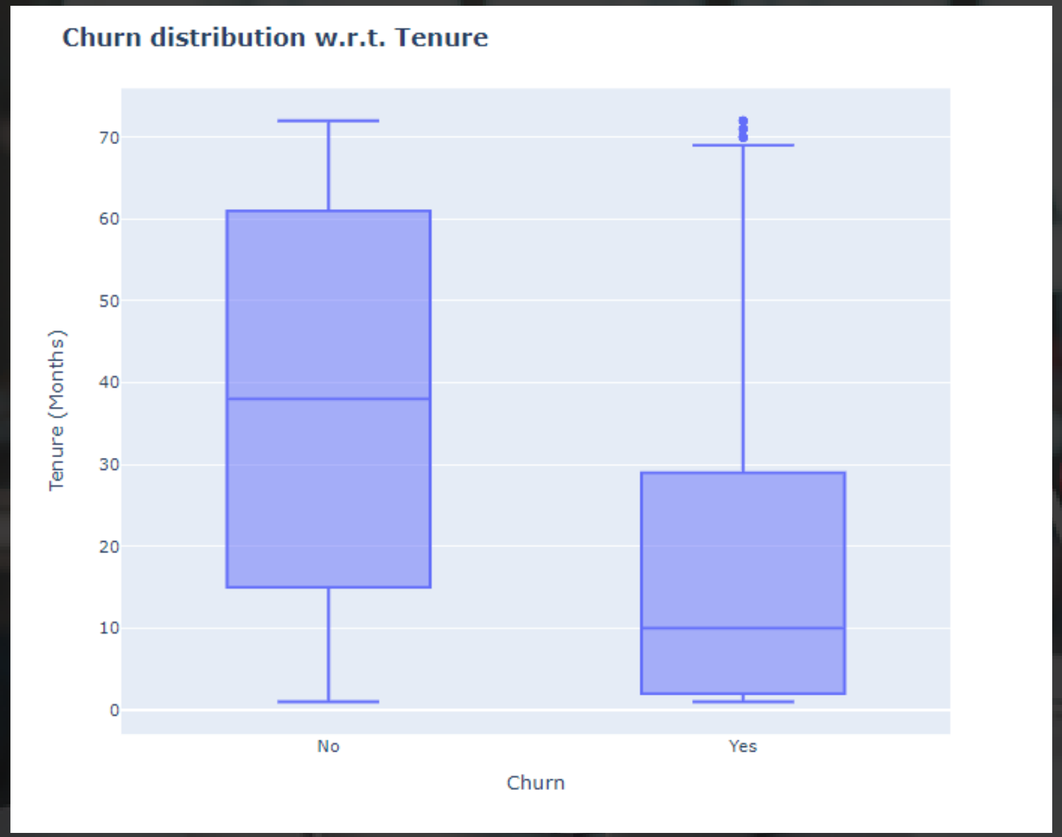
BAR GRAPH



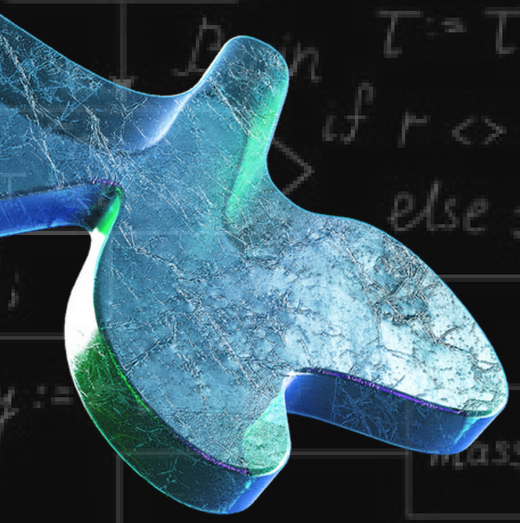
HEAT MAP



BOX PLOT


Churn distribution w.r.t. Tenure
Tenure (Months)
0
10
20
30
40
50
60
70
No
Yes
Churn

WHICH ALGORITHMS DID WE USE?



KNN

K-nearest neighbors (KNN) algorithm uses ‘feature similarity’ to predict the values of new datapoints which further means that the new data point will be assigned a value based on how closely it matches the points in the training set.

DECISION TREE

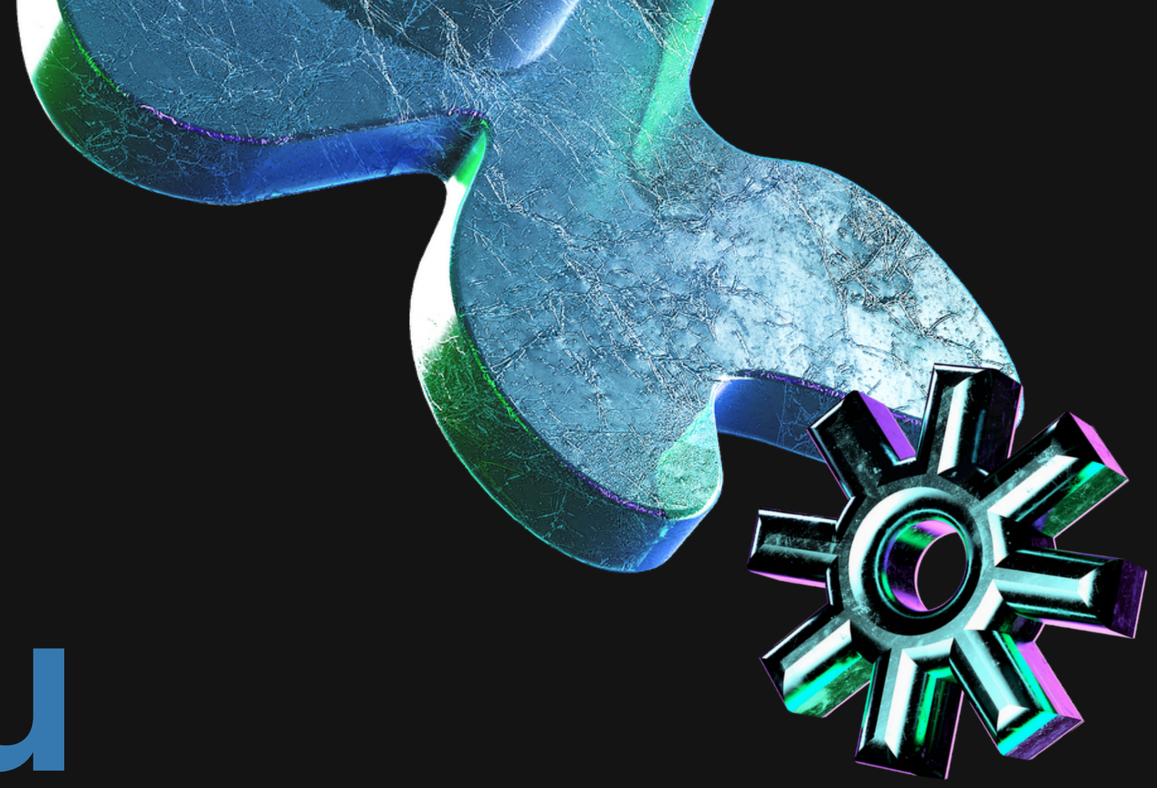
A Decision tree is a flowchart-like tree structure, where each internal node denotes a test on an attribute, each branch represents an outcome of the test, and each leaf node (terminal node) holds a class label.

SVM

An SVM model is basically a representation of different classes in a hyperplane in multidimensional space. The hyperplane will be generated in an iterative manner by SVM so that the error can be minimized.

How Can Company use an effective Retention Strategy?

- Gather feedback often
- Offer special discounts to customers who are on the fence
- Surprise your customers
- Underpromise (and overdeliver)
- Upsell and cross-sell
- Educate your customers
- Identify the best team members to deal with complaints
- Identify your most valuable customers and use them
- Spot which customers are at risk



Thank You

We hope you learned something new.

Done by-
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