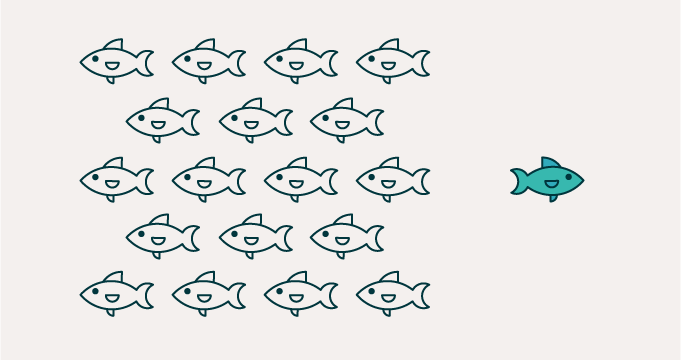
**Springboard Data Science Bootcamp – Capstone 2 – Predict Customer Churn**



***Objective:***

Customer Churn measures the loss of customers and service provider companies use this metric to understand the customer retention. The objective is to predict behavior to retain customers by analyzing all relevant customer data and develop focused customer retention programs.

***Problem:***

Is the customer going churn?

***Outcome:***

When a customer stops service or company losing customer is referred to as Customer Churn. This is an important measure for any service-based company. The model predictions an provide the propensity of churning and gives the companies with the feature’s importance that leads the customer to churn. With the list of potential customers who are likely to churn, the marketing/retention teams can then take measure to reduce their churn probability. This project helps companies in identifying customer who are at risk of churning and we have used this IBM sample data set provided for a telecom company. We will be using statistical analysis to understand variables that are associated with customer churn.

[***Dataset***](https://www.kaggle.com/c/new-york-city-taxi-fare-prediction/data)***:***

* 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 info about customers – gender, age range, and if they have partners and dependents

Data set contains 7043 rows and 21 columns, see below for more information:

* *customerID*: Customer ID
* *genderCustomer*: gender (female, male)
* *SeniorCitizen*: Whether the customer is a senior citizen or not (1, 0)
* *PartnerWhether*: the customer has a partner or not (Yes, No)
* *Dependents*: Whether the customer has dependents or not (Yes, No)
* *tenure*: Number of months the customer has stayed with the company
* *PhoneService*: Whether the customer has a phone service or not (Yes, No)
* *MultipleLines*: Whether the customer has multiple lines or not (Yes, No, No phone service)
* *InternetService*: Customer’s internet service provider (DSL, Fiber optic, No)
* *OnlineSecurity*: Whether the customer has online security or not (Yes, No, No internet service)
* *OnlineBackup*: Whether the customer has online backup or not (Yes, No, No internet service)
* *DeviceProtection*: Whether the customer has device protection or not (Yes, No, No internet service)
* *TechSupport*: Whether the customer has tech support or not (Yes, No, No internet service)
* *StreamingTV*: Whether the customer has streaming TV or not (Yes, No, No internet service)
* *StreamingMovies*: Whether the customer has streaming movies or not (Yes, No, No internet service)
* *Contract*: The contract term of the customer (Month-to-month, One year, Two year)
* *PaperlessBilling*: Whether the customer has paperless billing or not (Yes, No)
* *PaymentMethod*: The customer’s payment method (Electronic check, mailed check, Bank transfer (automatic), Credit card (automatic))
* *MonthlyCharges*: The amount charged to the customer monthly
* *TotalCharges*: The total amount charged to the customer
* *Churn*: Whether the customer churned or not (Yes or No)