

## Customer Churn Prediction

### Abstract:

Customer churn refers to when a customer (player, subscriber, user, etc.) ceases his or her relationship with a company. Customer churn occurs when customers or subscribers stop doing business with a company or service, also known as customer attrition. It is also referred as loss of clients or customers. ABC bank has shared the details related to their customers and wants to analyze it. You are hired as a DL Engineer to help the company predict if the customer has churned or not.

### Problem Statement:

This data set contains details of a bank's customers and the target variable is a binary variable reflecting the fact whether the customer left the bank (closed his account) or he continues to be a customer.

### Dataset Information:

Column	Description
RowNumber	The number of the row
CustomerId	Unique Ids for bank customer identification
Surname	Customer's last name
CreditScore	Customer's credit score
Geography	The country from which the customer belongs
Gender	Male or Female
Age	Age of the customer
Tenure	Number of years for which the customer has been with the bank

## Problem Statement –



### Artificial Neural Networks

Balance	Bank balance of the customer
NumOfProducts	Number of bank products the customer is utilising
HasCrCard	Binary Flag for whether the customer holds a credit card with the bank or not
IsActiveMember	Binary Flag for whether the customer is an active member with the bank or not
EstimatedSalary	Estimated salary of the customer in Dollars
Exited	Binary flag 1 if the customer closed account with bank and 0 if the customer is retained

### Scope:

- Exploratory data analysis
- Data Pre-processing
- Training ANN model for prediction
- Tuning the model to improve the performance

### Learning Outcome:

The students will get a better understanding of how the variables are linked to each other and how the EDA approach will help them gain more insights and knowledge about the data that we have and train the ANN model and tune it to the best possible level.