**PROJECT**

**Customer Churn in Telecommunication Companies**

* **Problem Statement**:

Telecommunication churn refers to customers leaving a telecom service, impacting the company's revenue and profitability. Telecommunications companies face a significant challenge in retaining customers. Customer churn, the loss of subscribers to competing services, not only results in immediate revenue loss but also impacts the long-term profitability and competitiveness of the company. To address this issue, telecommunication companies actively seek strategies to identify potential churners and implement targeted retention efforts.

* **Data Collection**:

ExcelR provided the data set.

The Dataset contains 5000 rows and 20 columns.

* **EDA**:

1. Handle missing data
2. Finding & Handling Outliers
3. Exploring the dataset to gain insights into the distribution of features

**Data Visualization**:

We used:

* box plots,
* scatter plots,
* bar charts,
* heat maps,
* histograms,
* pie charts, and count plots.
* **Feature Engineering:**
* Convert categorical variables into numerical formats through encoding.
* We can use decision trees, and recursive feature elimination (RFE).
* **Model Building:**

Here, we’ll use

* Decision tree classifier,
* SVM,
* Convolutional Neural Networks(CNN) & Recurrent Neural Networks (RNN),
* Gradient Boosting Machines(GBM),
* XGBoost,
* LightGBM,
* Bagging, and AdaBoost.
* **Model Evaluation:**
* Evaluate the model using the testing dataset.
* Use metrics such as accuracy, precision
* **Model Deployment:**

For deployment we’ll use

* Streamlit,
* Flask