Paper Summary 8

Paper number	8
Read by	Atman Hapani
Title of paper and author details	Customer Churn Prediction using Machine Learning Models Authors – Glory Sam, Philip Asuquo, and Bliss Stephen
Publication year, publication body	2024 The paper was published by the Journal of Engineering Research and Reports.
Domain of paper [sentiment analysis/ ontology construction…etc]	Customer Churn Prediction using Machine Learning.
Dataset used/ Data sources [if any]	The SyriaTel dataset was used, which contains 3333 records with 32 columns, including 2850 non-churned customers and 483 churned customers. The dataset is imbalanced.
Implementation tools/ technologies used [if any]	Logistic Regression K-Nearest Neighbour (KNN) Support Vector Machine (SVM) Random Forest Decision Tree XGBoost

Results given and evaluation parameters used	XGBoost and Random Forest showed superior performance in terms of accuracy.
Highlights/summary of paper in your words	The study emphasizes the importance of data preprocessing, including cleaning, feature extraction, label encoding, and feature scaling to enhance the prediction accuracy. The SyriaTel dataset used in the study is imbalanced, making it a challenging task for churn prediction models. The paper compares the performance of various machine learning models, with XGBoost and Random Forest emerging as the most effective for customer churn prediction.
Future enhancements suggested	Further investigation into more advanced data balancing techniques to handle imbalanced datasets. Exploration of additional machine learning models and hybrid approaches to further improve prediction accuracy. Application of the proposed models in other domains beyond telecommunications for broader validation.