**Research Paper Summary For Banking Churn Retention Prediction**

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| **SR.NO** | **RESEARCH PAPER TITLE AND AUTHOR** | **MODEL USED** | **ACCURACY** |
| 1. | Banking Customer Retention Prediction/ Banking Churn Prediction  Authors - Saurabh Badole | Support Vector Machine (SVM)  Logistic Regression  Gradient Boosting Machines (GBM)  Decision Tree (DT)  Random Forest (RF)  K-Nearest Neighbors (KNN) | Decision Tree (DT): 78  Logistic Regression: 82  Random Forest: 84  SVM: 83  GBM: 85 |
| 2. | Customer churn prediction system: a machine learning approach  Authors - Praveen Lalwani, Manas Kumar Mishra, Jasroop Singh Chaddha, Pratyush Sethi | Support Vector Machine (SVM)  Logistic Regression  Gravitational Search Algorithm (GSA)  Naive Bayes  Random Forest (RF)  Boosting Technique: Adaboost and XGBoost | The study highlights that the highest accuracy of 81.71% and an AUC score of 84% were achieved using Adaboost and XGBoost classifiers |
| 3. | A Review on Machine Learning Methods for Customer Churn Prediction and Recommendations for Business Practitioners  Authors – Awais Manzoor, M Atif Quershi, Etan Kidney, Luca Longo | Support Vector Machine (SVM)  Logistic Regression  Decision tree  Random Forest (RF)  Boosting Technique: Catboost and XGBoost | Gradient boosting models that offer high accuracy. For instance, CatBoost achieved an accuracy of around 81.8%. |
| 4. | In Pursuit of Enhanced Customer Retention Management: Review, Key Issues, and Future Directions  Authors - Ascarza; Neslin; Netzer; Lemmens, Aurélie; Anderson, Zachery; Fader, Peter S.; Gupta, S.;  Hardie, B.G.S.; Libai, Barak; Neal, David; Provost, Foster | The paper primarily discusses theoretical frameworks and does not apply or evaluate specific predictive models with accuracy metrics, as its focus is on reviewing existing research and proposing future directions. | ---- |
| 5. | Machine Learning Techniques for Customer Retention: A Comparative Study Authors – Sahar F. Sabbeh | Logistic Regression Decision tree(CART) Naive Bayesian Support Vector Machine (SVM) k-Nearest Neighbor (KNN) Ensemble Learning(Random Forest,AdaBoost, Stochastic Gradient Boosting) Artificial Neural Network (ANN) Linear Discriminant Analysis (LDA) | Random Forest and AdaBoost: Achieved the highest accuracy at 96%. |
| 6. | Predicting customer retention and profitability by using random forests and regression forests techniques Authors – Bart Larivière and Dirk Van den Poe | Random Forest Regression Forest | The study evaluates its models using AUC for binary classification (retention) and MAD for continuous outcomes (profit evolution), with random forests showing superior performance across these metrics. |
| 7. | Enhancing customer retention in telecom industry with machine learning driven churn prediction Authors – Alisha Sikri ,Roshan Jameel, Sheikh Mohammad Idrees ,Harleen Kaur | Perceptron Multi-Layer Perceptron Naive Bayes Logistic Regression K-Nearest Neighbor Decision Tree. Ensemble techniques: Gradient Boosting, Extreme Gradient Boosting (XGBoost) | XGBoost with a 75:25 ratio achieved the best results in terms of accuracy |

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| 8. | Customer Churn Prediction using Machine Learning Models Authors – Glory Sam, Philip Asuquo, and Bliss Stephen | Logistic Regression K-Nearest Neighbour (KNN) Support Vector Machine (SVM) Random Forest Decision Tree XGBoost | XGBoost and Random Forest showed superior performance in terms of accuracy. |