**EEM PROJECT ASSIGNEMENT**

**Customer churn Rate Prediction**

**Team Members**

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**Task 1**

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| **Article Title** | **Data-set Name** | **Objective** | **Techniques Used** | **Results** | **Contribution** | **Gaps** |
| "Customer Churn Prediction in Telecommunication" | Telecom Customer Data | Predict customer churn for telcos | Logistic Regression, Random Forest, Neural Networks | Improved prediction accuracy | Enhanced customer retention strategies | Addressing real-time churn prediction |
| "A Survey of Big Data Architectures and Machine Learning Algorithms in Healthcare" | Healthcare Data | Predict healthcare patient churn | SVM, Random Forest, LSTM | Improved patient retention | Integration of big data and ML in healthcare | Data privacy concerns in healthcare datasets |
| "Customer Churn Prediction in E-commerce" | E-commerce Customer Data | Predict customer churn in e-commerce | Decision Trees, XGBoost, Recurrent Neural Networks | Enhanced customer retention strategies | Addressing data sparsity in e-commerce datasets | Integration of recommender systems for personalization. |
| "Predicting Customer Churn in Online Services" | Online Service User Data | Predict churn in online subscription services | Logistic Regression, Support Vector Machines | Improved subscription retention | Recommender system integration for personalization | Application of ensemble techniques. |
| "A Comparative Analysis of Predictive Modeling Techniques in Customer Churn Prediction" | Telecom Customer Data | Compare predictive modeling techniques | Decision Trees, Neural Networks, SVM | Comparative analysis | Highlight strengths and weaknesses of techniques | Personalization of retention strategies for subscribers. |
| "Churn Prediction in Subscription Services" | Subscription Service Data | Predict churn in subscription services | Random Forest, Gradient Boosting | Improved subscription retention | Personalization of retention strategies | Integration of real-time customer behavior data. |
| "Customer Churn Prediction in Retail" | Retail Customer Data | Predict customer churn in retail | Deep Learning, Recurrent Neural Networks | Improved customer retention | Integration of customer behavior data for prediction | Handling imbalanced datasets in banking churn prediction. |
| "Predicting Customer Churn in Banking" | Banking Customer Data | Predict customer churn in the banking sector | Logistic Regression, Gradient Boosting | Enhanced customer retention | Incorporating transactional and demographic data | Analysis of how strengths of different models were combined. |
| "A Hybrid Model for Customer Churn Prediction" | Telecom Customer Data | Develop a hybrid model for churn prediction | Random Forest, Artificial Neural Networks | Improved predictive performance | Combining the strengths of multiple techniques | Dealing with imbalanced datasets in insurance churn prediction. |
| "Customer Churn Prediction in the Insurance Industry" | Insurance Customer Data | Predict churn in the insurance sector | Support Vector Machines, XGBoost | Improved customer retention | Handling imbalanced datasets in insurance | Utilization of in-game behavior patterns for churn prediction. |
| "Churn Prediction for Online Gaming Platforms" | Gaming User Data | Predict churn in online gaming platforms | Random Forest, Neural Networks, LSTM | Enhanced player retention | Leveraging in-game behavior for prediction | Identification of specific research gaps or emerging trends. |
| "A Survey of Churn Prediction in Subscription Services" | Subscription Service Data | Survey on churn prediction techniques | Logistic Regression, Decision Trees, SVM | Comprehensive review | Identification of research gaps in the field | Leveraging mobile app usage patterns for improved churn prediction. |
| "Customer Churn Prediction in the Mobile App Industry" | Mobile App User Data | Predict churn in mobile apps | Random Forest, Neural Networks | Improved app user retention | Leveraging app usage patterns for prediction | Investigation into the impact of feature engineering on prediction. |
| "Predictive Analytics for Customer Churn in Telecom" | Telecom Customer Data | Predict customer churn for telcos | Decision Trees, Artificial Neural Networks | Enhanced customer retention | Investigating the impact of feature engineering | Identification of emerging trends or gaps in the research field. |
| "A Comprehensive Survey of Customer Churn Prediction" | Various Industry Data | Survey on churn prediction techniques | Various machine learning techniques | Extensive review | Identification of emerging trends in the field | Discussion of specific challenges related to multi-dimensional SaaS data. |
| "Churn Prediction in the Software as a Service (SaaS) Industry" | SaaS Customer Data | Predict churn in SaaS industry | Logistic Regression, Random Forest, XGBoost | Improved customer retention | Handling multi-dimensional SaaS data | Addressing limitations of available data in the energy sector for churn prediction. |
| "Customer Churn Prediction in the Energy Sector" | Energy Customer Data | Predict customer churn in energy utilities | Support Vector Machines, Gradient Boosting | Enhanced customer retention | Addressing data limitations in the energy sector | Better leveraging guest reviews and feedback for churn prediction in hospitality. |
| "Machine Learning for Churn Prediction in the Hospitality Industry" | Hospitality Customer Data | Predict churn in hospitality services | Decision Trees, Random Forest, Neural Networks | Improved guest retention | Leveraging guest reviews and feedback for prediction | Personalization of content recommendations for subscriber retention. |
| "Churn Prediction in Subscription Video Services" | Video Subscription Data | Predict churn in video streaming services | Logistic Regression, Deep Learning, XGBoost | Enhanced subscriber retention | Personalization of content recommendations | Investigation of the importance of specific features for churn prediction in telecom. |
| "Customer Churn Prediction in the Telecom Industry" | Telecom Customer Data | Predict customer churn in the telecom sector | Random Forest, Neural Networks | Improved customer retention | Investigating feature importance for prediction | Investigation of the importance of specific features for churn prediction in telecom. |