Telecom Customer Churn Prediction

- Predict customer churn using machine learning
- Identify key churn drivers
- Provide actionable retention strategies

Business Problem & Dataset Overview

- Customer churn reduces revenue and increases acquisition costs
- Dataset: Telecom customer records
- Target variable: Churn (Yes/No)
- Features include demographics, services, tenure, charges

Exploratory Data Analysis (EDA)

- Checked missing values and data types
- Analyzed churn distribution
- Identified correlations between tenure, charges, and churn
- Visualized key feature relationships

Modeling Approach

- Data preprocessing (encoding & scaling)
- Train-test split
- Logistic Regression model
- Model evaluation using accuracy & confusion matrix
- Decision Tree model

Model Results & Insights

- Model achieved strong predictive performance
- Key churn drivers: Tenure, Monthly Charges, Contract Type
- Short tenure customers more likely to churn
- Month-to-month contracts show higher churn

Business Impact & Recommendations

- Target high-risk customers with retention offers
- Promote long-term contracts
- Implement loyalty incentives for new customers
- Expected reduction in churn improves revenue stability

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