Telecom Churn Analysis Statement [Anshul Dang]

Develop a churn prediction model with at least 70% ROC-AUC by September 10, 2025, and identify the top three churn drivers to guide targeted retention strategies.

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1 Context

Telecom companies face rising customer acquisition costs, making retention a top business priority. Churn when customers stop using the service directly impacts revenue and profitability. With ~2,800 customer records containing demographics, plan information, and usage behavior, this project seeks to build a data-driven churn prediction model to enable proactive retention efforts.

2 Criteria for success

- **Build a predictive model achieving ≥70% ROC-AUC.**
- **Identify the top three drivers of churn (e.g., complaints, subscription length, tariff plan).**
- **Provide actionable recommendations for retention strategies focused on high-value customers.**

3 Scope of solution space

- Focus on customer-level features such as age, tariff plan, usage metrics, and complaints.
- Predict churn as a binary classification (Yes/No).
- Exclude external data (e.g., customer surveys, marketing spend) due to unavailability.

4 Constraints within solution space

- **Dataset limited to ~2,800 customers, so not "big data."**
- **No historical transaction logs; data is a snapshot of customer attributes.**

5 Stakeholders to provide key insight

- Customer Retention & Service Teams.
- Marketing & Strategy Leadership.
- Data Science & Analytics Team.

6 Key data sources

- Kaggle Dataset for telecom company.
- Features include demographics, usage metrics, service complaints, and churn status.

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