Data Scientist Technical Assessment

Deliverable: Analysis report with code, visualizations, and business recommendations.

Churn Prediction Model

Develop a sophisticated churn prediction model that identifies users at risk of churning within the next 30 days. Your solution must address the following requirements:

Submission Requirements:

A) Jupyter notebook(s) with complete analysis.
B) Executive summary (2-3 pages) with key insights and recommendations. C) Code should be production-ready with appropriate error handling. D) All assumptions and limitations clearly stated.

Extra Information - Business Context

To enable business-relevant analysis, use these **industry-typical ranges** for your calculations:

Customer Lifetime Value (CLV) Estimates

Bronze Tier: R$500 - R$1.000
Silver Tier: R$1.500 - R$2.000
Gold Tier: R$2.500 - R$5.500
Platinum Tier: R$6.000 - R$10.000
Diamond Tier: R$10.500 - R$20.000

Retention Campaign Costs (Per User)

Automated Email Campaign: R$15 - R$35
Personalized Bonus Offer: R$50 - R$150
Phone/Chat Outreach: R$75 - R$200
VIP Account Manager: R$250 - R$500

Historical Retention Effectiveness

Early Intervention (churn risk 0.3-0.6): 20-35% success rate
High-Risk Intervention (churn risk 0.6-0.8): 15-25% success rate
Critical Intervention (churn risk >0.8): 10-20% success rate

Note: These are industry benchmarks. You may refine estimates using dataset patterns.