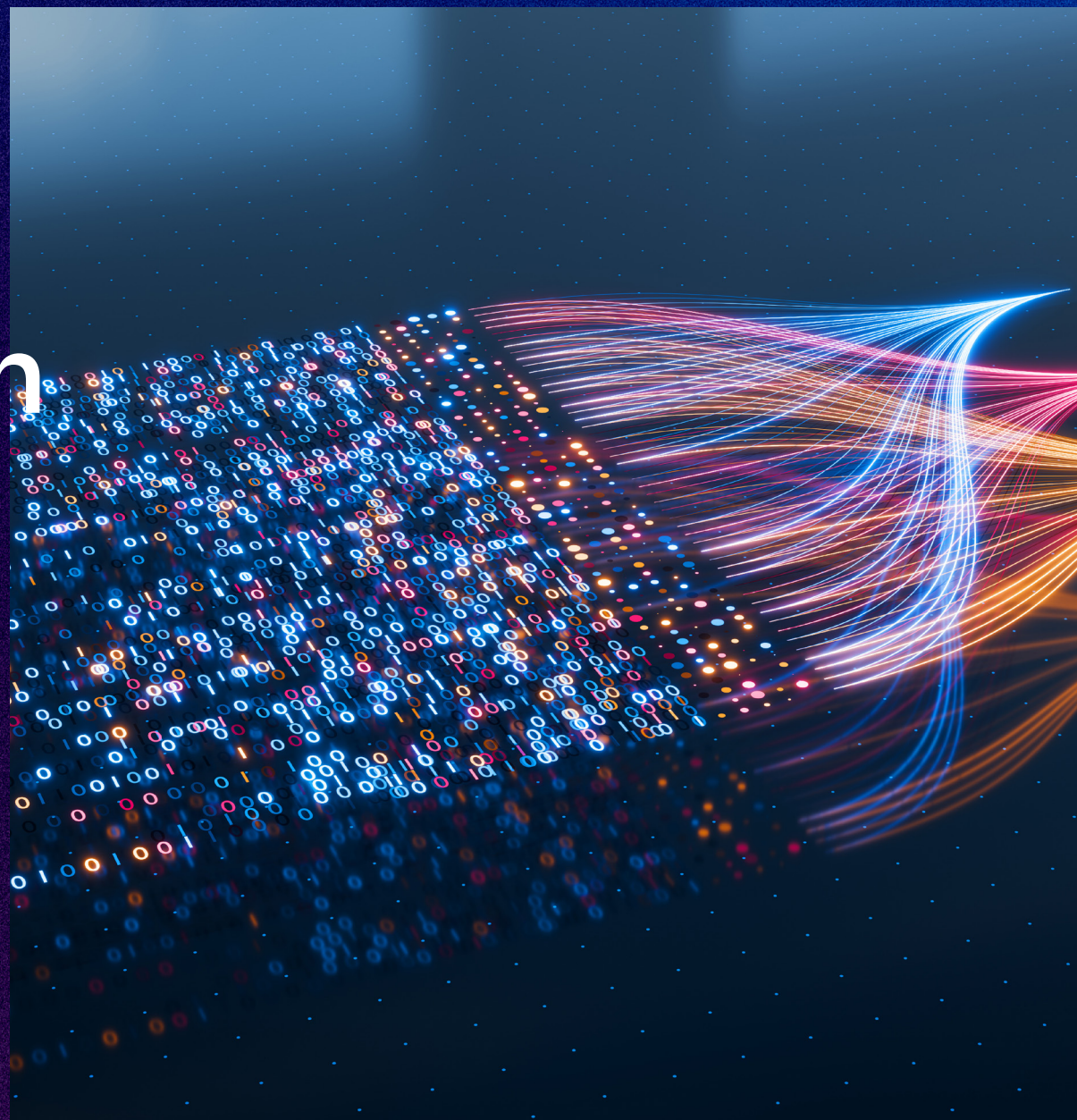


# Predicting Advertiser Churn with ML Models

A Global Media and  
Entertainment Company



Reduced advertiser churn by 5% and improved revenue forecasting for a media client through

# ML-driven Predictive Models Integrated into CRM



## The Backstory and the Business Challenge

A global media and entertainment company with a diverse portfolio of digital, TV, and streaming platforms. Our client aimed to leverage machine learning (ML) models to predict churn risks among its ad sales clients and take proactive measures to retain them.

Our client's ad sales team wanted to address the challenge of reducing advertiser churn. They **faced difficulties in predicting which advertisers were likely to reduce both the frequency and value of their ad spend. The lack of insights into advertiser behavior, coupled with a fragmented view of historical spending patterns and market conditions, led to high churn rates and inefficient resource allocation** for client retention. Advertisers churn significant impacted revenue, making it increasingly difficult to forecast future ad spend accurately.

To address these issues, the client needed to **provide early alerts to the sales team about at-risk advertisers, integrate predictive insights into their CRM (Salesforce), optimize sales engagement and retention efforts, and improve overall revenue forecasting accuracy.**



# SGA Approach

## STEP 1

### Data aggregation and enrichment

The project involved in-depth data integration, consolidating CRM data, ad spend, campaign performance metrics, and external market data such as economic indicators and competitor activities into a central repository. The enriched data was then processed and stored in a unified data lake, creating a single source of truth for ad sales insights.

## STEP 2

### Defining churn

Advertisers displayed various patterns of disengagement, making a generic definition of churn, difficult to use. We designed a comprehensive framework to capture nuanced churn behaviors, ensuring that the model accurately reflected real-world scenarios.

The framework we developed included:

#### 1. Slow Churn:

A gradual decrease in ad spend over time, **characterized by declining over multiple quarters, loss of category lines, or increased inter-order frequency.**

#### 2. Sudden Churn:

An abrupt **closure of transactions, often driven by service issues or disputes, such as billing problems, technical issues, or unmet campaign expectations.** This may also include cannibalization of linear ad spend by digital ad spend.

#### 3. Early Churn:

Advertisers who disengage shortly after onboarding or following their first few campaigns.

## SGA Approach

STEP 2 continued...

### 4. Flatline Churn:

Advertisers whose **spend remains flat for a period but eventually drops to zero**. This may indicate they are still engaged but are not increasing their investment, which could ultimately lead to complete disengagement.

## STEP 3

### Churn prediction models

We developed advanced ML models to address the different types of churn. Customized features were created based on the specific behaviors of Paramount's advertisers to accurately model churn for each segment.

We deployed a suite of ML models to predict churn based on the identified advertiser behaviors. This included gradient boosting decision trees, which were particularly effective in identifying slow churn. To handle time-series data, we used long short-term memory (LSTM) models that could capture patterns over time, such as advertisers' spending trends, inter-campaign gaps, and the time decay in engagement, making them particularly useful for predicting sudden churn. For early churn, where we needed to forecast not just the likelihood but also the time until churn, we employed survival analysis techniques.

Churn propensity scores were calculated for each advertiser based on historical data and real-time performance metrics. The models analyzed various factors, including ad spend trends, campaign performance, billing issues, and external competitive pressures to accurately predict churn.

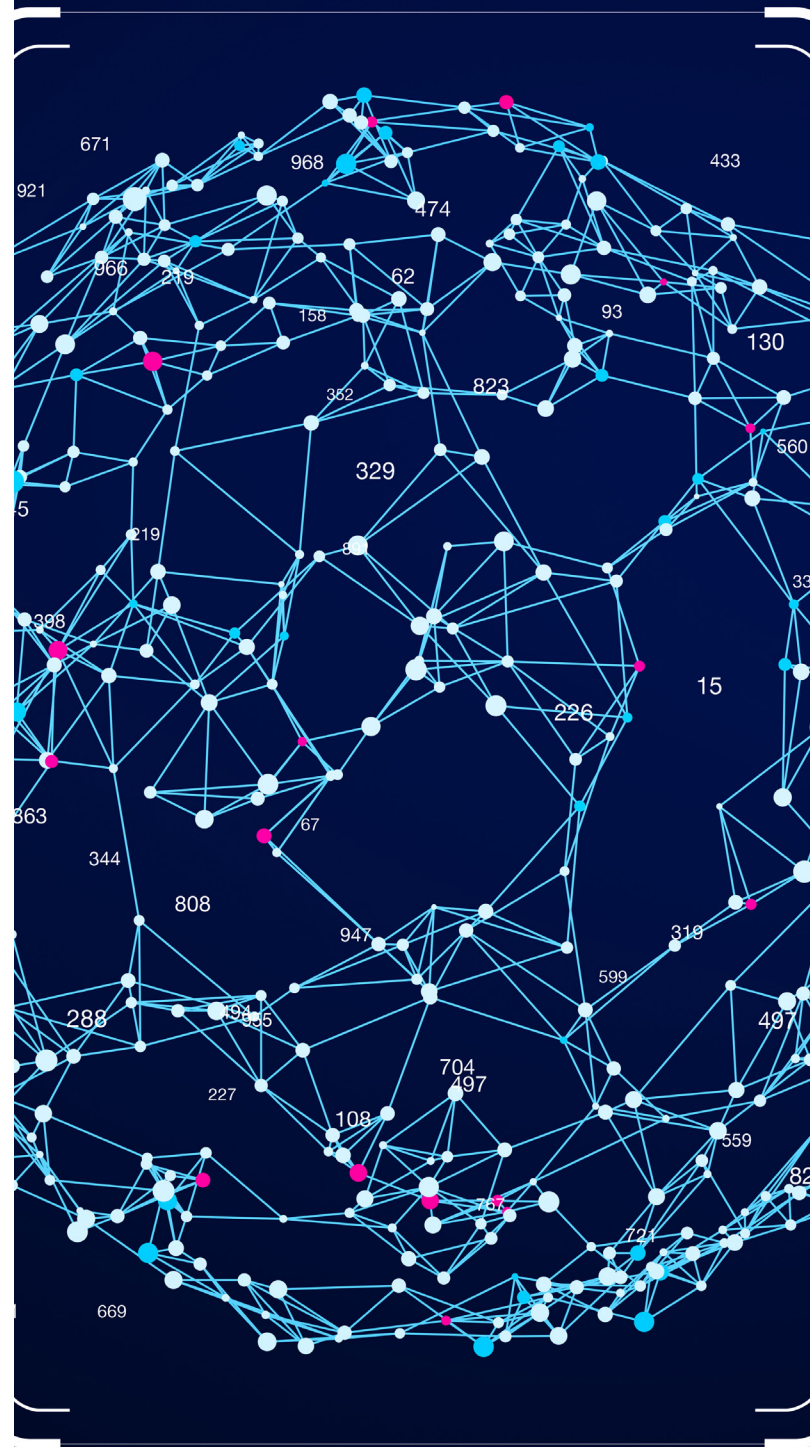
## STEP 4

### Integration into Salesforce

The predictive models were integrated directly into Salesforce, allowing the sales team to view churn scores and risk factors for each advertiser within their existing workflow.

Churn insights were seamlessly embedded into the platform, making it easy for the sales team to access and act on the predictions without leaving their CRM environment.

High-risk accounts were flagged in Salesforce, enabling the sales team to prioritize their outreach efforts.



# The Impact

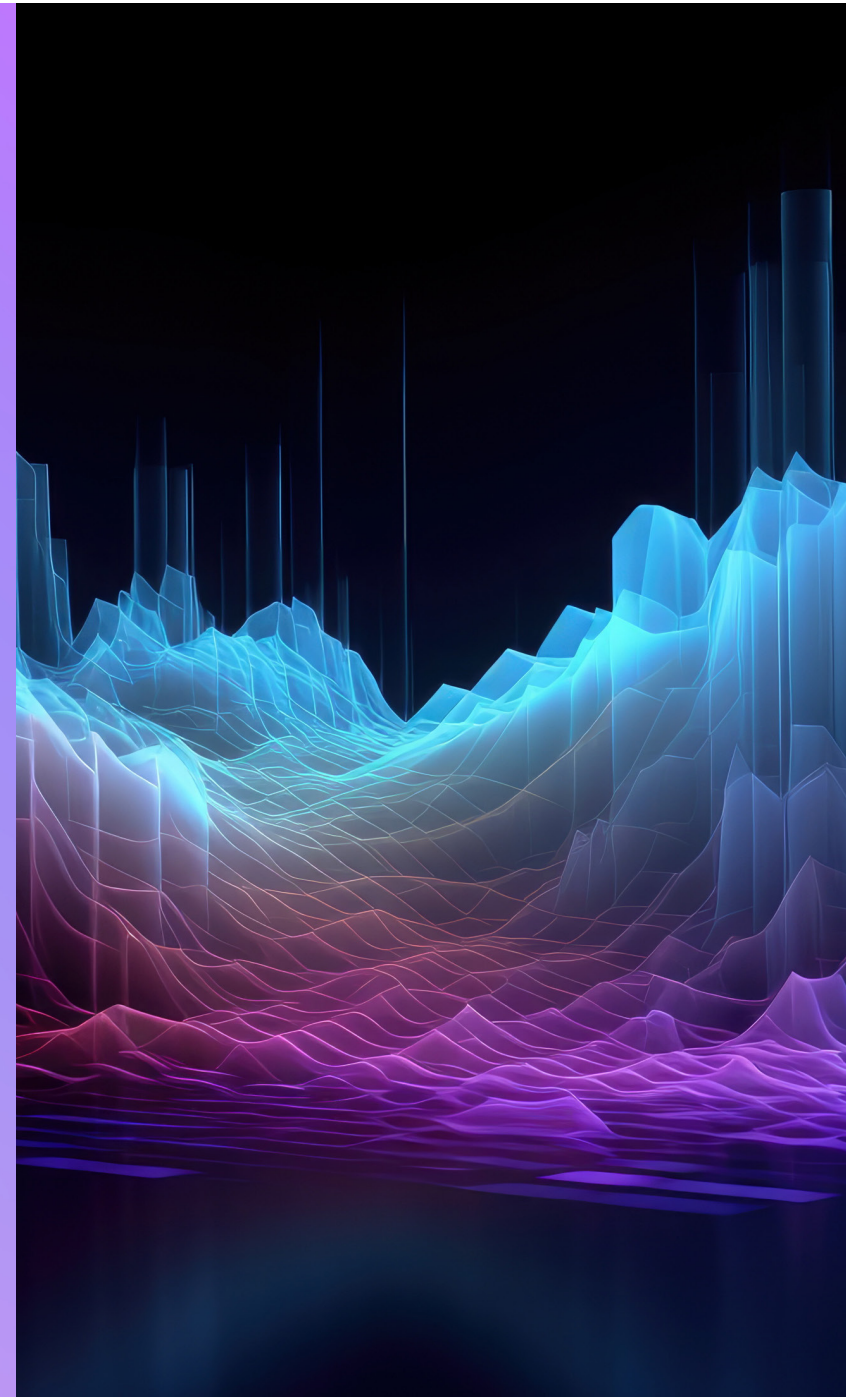
The churn models allowed our client to proactively engage with at-risk advertisers, reducing churn by 5% and retaining key clients.

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The integration of churn insights into Salesforce streamlined the sales process, enabling the team to focus on high-risk accounts and deploy resources more efficiently.

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With precise churn predictions, Paramount improved its revenue forecasting capabilities, facilitating better financial planning and strategic decision-making.



## About SG Analytics

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