

# Machine Learning

Understanding and Predicting Customer Behaviors  
to Deliver Personalized Experiences

Data-driven marketing is a key strategy for brands overwhelmed by the challenges of understanding, targeting and delivering personalized experiences at scale. But recent changes in consumer behaviors and expectations have forced brands and marketers to rethink ways of connecting and serving customers 'in-moment'. Machine Learning is a key capability for marketers that analyzes troves of customer data and provides insights that help predict engagement behaviors, deliver more personal experiences, and optimize marketing efficiency. As per Gartner 84%<sup>1</sup> of digital marketing leaders believe using AI/ML enhances the marketing function's ability to deliver real-time, personalized experiences to customers.

Cheetah Digital's out-of-the-box machine learning (ML) capabilities equip marketers with the tools needed to uncover valuable customer insights and leverage them for optimized results. Cheetah ML capabilities predict customer behaviors, identify opportunities, and deliver meaningful outcomes throughout the customer lifecycle. Optimizing customer experiences, based on the available data, enables more time to focus on data-driven marketing strategies and deploy better content for enhanced consumer engagement. Cheetah's ML approach makes it easy for marketers to get up and running with models and insights quickly, leading to more efficient and effective customer engagement.

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**AI and Machine Learning are on track to generate between \$1.4 Trillion to \$2.6 Trillion in value by solving Marketing and Sales problems over the next three years.**

— McKinsey Global Institute

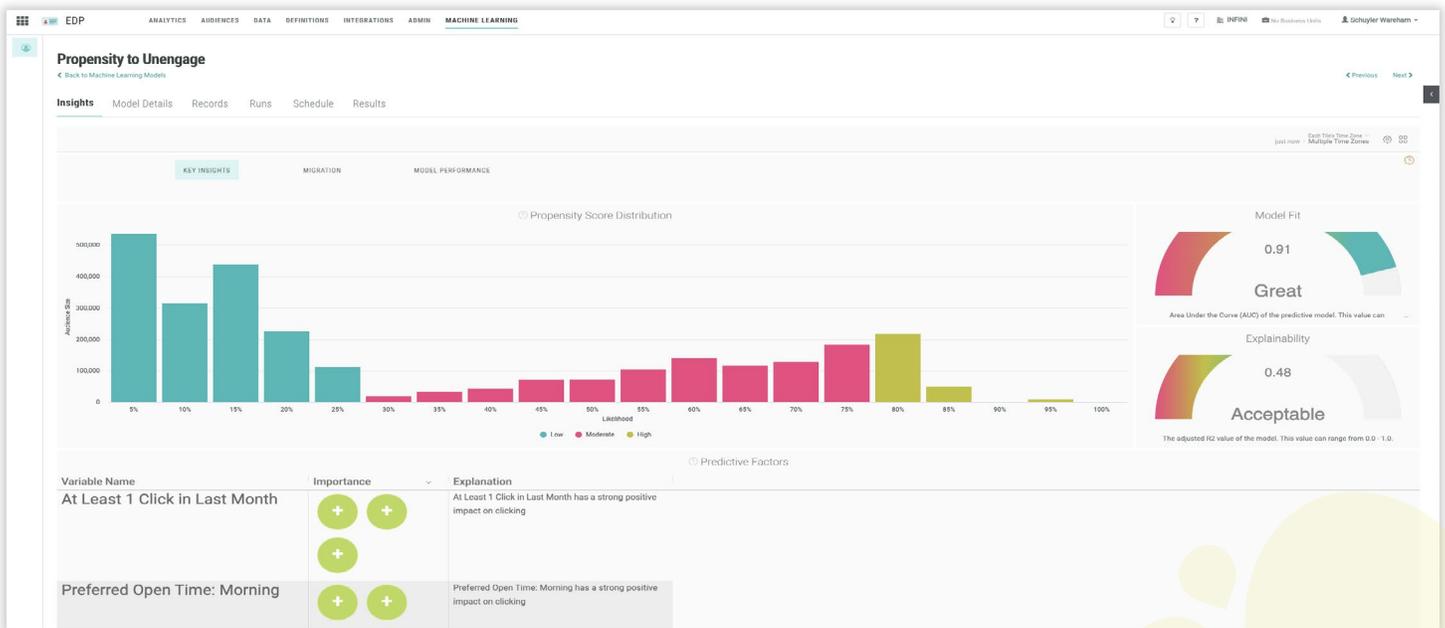
## Capabilities

### Standard Models

Cheetah's ML capabilities include a set of standard, "out-of-the-box" models that can be modified to meet unique business requirements and marketing strategy. These ML features live natively in the Cheetah Engagement Data Platform to calculate and score customers across the following three model types:

- **Propensity:** This model set solves a complex problem for marketers - predicting future customer behavior. The model accounts for the most common use cases with our pre-built models - propensity to open, click, unsubscribe, and unengage. Additionally, marketers can have propensities to predict on standard events and activities.
- **Send-Time Optimization:** This model type optimizes send time for something other than an open or a click event. These events could be a standard event/activity field like a purchase or website visit or a non-standard custom event/activity like signing up for a rewards program or an opt-in to SMS.
- **Clustering:** These models automatically identify natural groupings of customers behaving similarly and sharing common characteristics into audience segments. Cheetah provides three pre-built models - Engagement Recency-Frequency, Recency Frequency Monetary Value (RFM), and Personas. With CDS, the user can further refine these models by including custom member attributes (e.g. loyalty tier, preferred location, spend in the last 6 months).
- **Offer Recommender:** The Offer Recommender models are designed to leverage a variety of inputs to arrive at a score that represents the likelihood of a given member to use, or redeem an offer. The model includes inputs such as product catalog, purchase history, offers, and recent purchases to produce a variety of offers optimized to best fit particular marketing strategy.

1. Gartner, April 2021



Propensity Model

### Advanced Analytics and Insights

The Insights tab, a core feature of Machine Learning, provides a set of visualizations designed to help marketers understand customer data, and take actions based on those insights. It enables users with advanced insights about consumer behaviors, purchase/churn propensities, understanding persona clusters and optimizing send times for consumer engagement strategies.

### Citizen Data Scientist

Citizen Data Scientist is a capability that provides marketers an accessible way to leverage machine learning (ML) and analytics as a guided workflow process for marketers to help them define, build, and deploy models very easily, without a lot of data science knowledge. These ML capabilities predict customer behaviors, identify opportunities, and deliver meaningful engagement throughout the customer lifecycle. The solution supports use cases - such as clustering, propensity modeling or send-time-optimization, offer recommender and will include more over time.

## Benefits

### Increased Revenue with Streamlined Marketing

Increase ROI by delivering streamlined campaigns using machine learning programs to accurately predict population segments most likely to become customers.

### Hyper-Personalization

Leverage machine learning models to deliver targeted offers and recommendations with optimized content - increase email response rates to 87% with personalized real-time, context-based decisions for the next best offer at the right time.

### Marketing Spend Efficiency

Increase marketing spending efficiency by 10-30%<sup>2</sup> by reducing mass marketing and by customizing offers to the minimum amount to influence purchasing decisions.

2. Marketing's Holy Grail: Digital personalization at scale, McKinsey Digital