



## CASE STUDY

# ML-BASED HYBRID RECOMMENDER SYSTEM FOR A LEADER IN LOYALTY BUSINESS

Personalized user recommendations improved customer retention

## Client Background

Our client is a leading US-based loyalty and customer engagement solutions company servicing millions of consumers through their solutions and partner programs. They enable brands to connect, engage with their customers and expand the value of customer relationships. The client used a traditional rule-based approach to generate customer recommendations for various offers, discounts, coupons etc. and continue with their services. The current system had limited capabilities and static user preferences. There was a need to build a system to generate personalized recommendations using machine learning models.

The key objectives of the client included:

- Develop ML-based system to generate personalized recommendations
- Generate location-specific targeted offers based on customer preferences
- Process data from multiple sources, popular selection, trending offers provide recommendations

## Xoriant Solution | Key Contributions

The client chose Xoriant as its technology partner because of the combination of our experience, expertise and capabilities in personalized recommendation systems. The client wanted to leverage Xoriant's machine learning solutions and best practices to shape their experience with brands and customers. Our key contributions included:

## KEY BENEFITS

- Reduced the total cost of ownership.
- Generated personalized recommendations based on user preferences.
- Resulted in better customer retention with dynamic AI approach that provided person specific offerings.

- Built a proof of concept to demonstrate the feasibility of generating personalized recommendations using machine learning.
- Developed a ML-based hybrid recommender system using AWS SageMaker to build, train models, and deploy with efficiency and scale.
- Leveraged machine learning to dynamically handle trends and personalization for the solution.
- Created a data set of 5,000 selected users with 30,000 claims in a month to train the ML prototype.
- Achieved 76% predictability of test data that related to the top five items recommended by the model.
- Processed data from multiple sources using pluggable data cleansing functions and data transformation methods for generating personalized recommendations.
- Applied a mix of different ML models on the recommender system to address various problems including warm start problem (existing user), cold start (new user, new offer), and changing user interests.

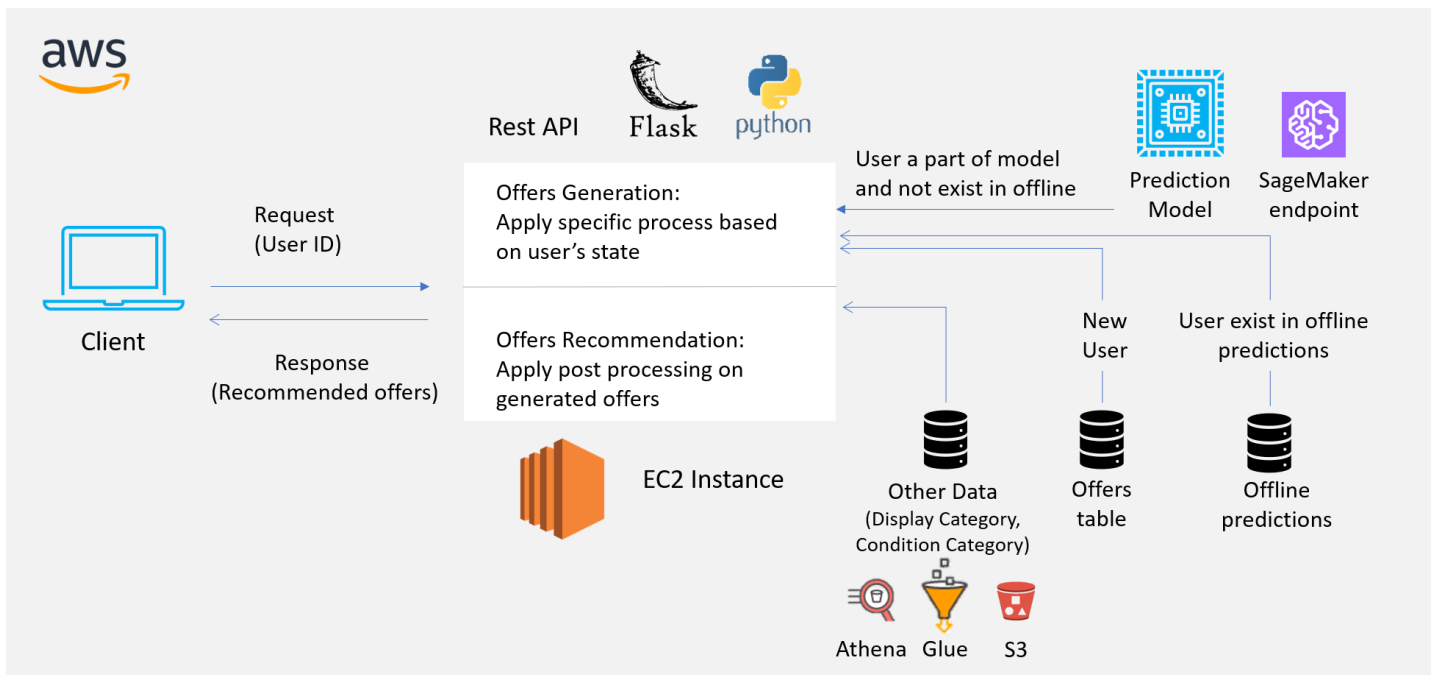
## Client Testimonial



*Xoriant's blend of human and machine capabilities enabled us to automatically tailor recommendations to our customers. The cutting-edge ML models has allowed us to stay connected to our customers and improve retention.*



## High Level Architecture



## Technology Stack

**AWS Webservices | AWS SageMaker | AWS Athena**



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