

## AI at Its Best.

How Distillery Optimized a Global Recommendation System leveraging the latest in AI and LLMs.

### The Urgency

A prominent hotel booking platform needed to enhance its recommendation system to quickly and efficiently provide users with the best hotel options. Given the rapid technological improvements, the existing machine learning model required continuous significant updates and improvements to stay competitive and ensure user satisfaction.

### The Distillery Approach

Distillery was engaged to refine and optimize the global recommendation system. Our team, led by one of Distillery's senior-most data engineers, focused on several key areas:

- **Tech Stack Optimization:** Better utilizing Python, SQL, and Spark to build and maintain the recommendation system.
- **Data Training:** Feeding more and better data into the AI model to improve its accuracy in understanding reviews, user interactions, and cookie information.
- **Model Optimization:** Continuously training and updating the machine learning model to provide better predictions and recommendations.
- **Continuous Deployments:** Conducting 3-4 deployments weekly to test new features and improvements in real-time.
- **A/B Testing:** Testing changes on the front end, such as button placement and colors, to identify statistically significant improvements in user conversions.
- **User-Centric Focus:** Ensuring all changes and improvements were centered around enhancing the user experience.
- **AI Translation Model:** Releasing an AI model to translate information into different languages for a more inclusive user experience.

### The Results

Distillery's involvement led to significant improvements in the client's recommendation engine, delivering:

- **Enhanced Recommendations:** Users received better hotel options, reducing the need for extensive scrolling and improving the booking experience.
- **More Accurate Predictions:** Continuous training and data integration ensured the AI model provided highly relevant hotel suggestions.
- **Increased Conversions:** A/B testing and implementing effective changes resulted in higher user engagement and conversion rates.
- **Greater User Satisfaction:** The user-centric approach led to a more satisfying and efficient hotel booking experience.
- **Multilingual Support:** The AI translation model made the platform more accessible to diverse users.

#### Continuing Partnership

Following these successful enhancements, Distillery works closely with this client's data team, ensuring their recommendation system remains cutting-edge and user-friendly. Our ongoing support includes further optimizations, feature additions, and continuous model training to maintain high user satisfaction and engagement.