Dynamic Pricing: Case Study

A ride-sharing company wants to implement a dynamic pricing strategy to optimize fares based on real-time market conditions. The company only uses ride duration to decide ride fares currently. The company aims to leverage data-driven techniques to analyze historical data and develop a predictive model that can dynamically adjust prices in response to changing factors.

A dataset containing historical ride data has been provided. The dataset includes features such as the number of riders, number of drivers, location category, customer loyalty status, number of past rides, average ratings, time of booking, vehicle type, expected ride duration, and historical cost of the rides.

Your goal is to build a dynamic pricing model that incorporates the provided features to predict optimal fares for rides in real-time. The model must consider factors such as demand patterns and supply availability.