INDUSTRIAL USE CASES

PREDICTIVE MODELLING ANALYTICS

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PROBLEM STATEMENT

Your company has assigned you a new project that involves assisting a food delivery company to prevent losses from occurring. The main reason behind the loss is that the food delivery team is not able to deliver food to their customers in the stipulated timeframe. As a part of their policy, they are then required to deliver food without any charge. This is resulting in losses on the company’s part. How can you fix this problem using machine learning algorithm?

ABOUT INDUSTRY:

INDUSTRY NAME: Food Delivery

EXPLAINATION:

The food delivery company is facing financial losses because their delivery team frequently fails to deliver food within the specified time frame. According to company policy, late deliveries result in providing the food to customers without any charge, leading to financial losses.

SOLUTION

Utilize regression-based machine learning to predict delivery times accurately. Implement real-time route optimization and dynamic pricing for load balancing. Proactively notify customers of potential delays. Collect and incorporate feedback for continuous improvement. Achieve timely deliveries, minimizing losses from free deliveries.

SOLUTION EXPLANATION

Data Collection:

- Collect historical data on deliveries, including timestamps and relevant features.
- Include factors such as distance, time of day, day of the week, weather conditions, and more.

Feature Engineering:

- Identify key features influencing delivery times.
- Create additional features like traffic conditions, order volume, etc.

Data Preprocessing:

- Handle missing or inconsistent data.
- Normalize numerical features, encode categorical variables, and address outliers.

Build a Predictive Model:

- Choose a regression algorithm (e.g., linear regression, decision trees).
- Train the model on historical data to predict delivery times.

Real-time Prediction:

- Integrate the model into the delivery system for real-time predictions.

Customer Communication:

- Develop a system to proactively notify customers about potential delays and provide real-time updates.

Feedback Loop:

- Collect customer feedback on delays to improve the model and processes continually.

Continuous Monitoring and Improvement:

- Regularly monitor the model's performance and update with new data for continuous improvement.

Expected Outcomes:

- Improved accuracy in predicting delivery times.
- Optimized delivery routes to minimize delays.
- Balanced order distribution across time slots.
- Proactive communication reducing customer dissatisfaction.
- Continuous adaptation and improvement based on feedback and changing conditions

THANK YOU!