About Food Demand Forecasting Challenge

Every expanding online firm needs demand forecasting. Having the appropriate amount of stock on hand at any one time can be next to impossible without effective demand forecasting procedures in place. Because a food delivery service deals with so many perishable raw materials, it is crucial for the business to precisely predict daily and weekly demand.

A warehouse with too much inventory runs the danger of wastage, while one with too little could experience out-of-stocks, which would force clients to turn to your rivals for assistance. Get a taste of the demand forecasting challenge with actual datasets in this challenge.

PROBLEM STATEMENT

A meal delivery service that has operations in several cities is the client. For delivering meal orders to clients, they have a number of fulfilment sites in these cities. The client wants us to assist these centres in estimating demand for the future weeks so that these centres can appropriately plan the supply of raw materials.

The majority of raw materials are replenished on a weekly basis, and because they are perishable, careful purchase planning is crucial.Second, precise demand estimates are quite beneficial when it comes to staffing the centres.

Historical data of demand for a product-center combination (Weeks:1 to 145)

- Product(Meal) features such as category,subcategory,current price and discount
- Information for fulfillment center like center area, city information etc.

Data Dictionary

1. **Weekly Demand data (train.csv):** Contains the historical demand data for all centers, test.csv contains all the following features except the target variable

Variable	Definition
id	Unique ID
week	Week No
center_id	Unique ID for fulfillment center
meal_id	Unique ID for Meal
checkout_price	Final price including discount, taxes & delivery charges
base_price	Base price of the meal
emailer_for_promotion	Emailer sent for promotion of meal
homepage_featured	Meal featured at homepage
num_orders	(Target) Orders Count

2. **fulfilment_center_info.csv:** Contains information for each fulfilment center

Variable	Definition
center_id	Unique ID for fulfillment center
city_code	Unique code for city
region_code	Unique code for region
center_type	Anonymized center type
op_area	Area of operation (in km^2)

3. **meal_info.csv:** Contains information for each meal being served

Variable	Definition
meal_id	Unique ID for the meal
category	Type of meal (beverages/snacks/soups....)
cuisine	Meal cuisine (Indian/Italian/…)

Evaluation Metric :

Submissions are evaluated on Root Mean Square Error (RMSE) between the predicted probability and the observed target.