

DATA GLACIER - RETAIL FORECASTING PROJECT

WEEK 7

Group Name	Projection Wizard
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1. Problem description:

A large beverage company operating in the Australian market faces challenges in demand forecasting for its wide range of products. The demand is subject to fluctuations influenced by various factors, including holidays, seasonality, and promotional activities. The company is currently using an in-house forecasting software, which often produces unreliable and nonsensical forecasts. In pursuit of more accurate and efficient forecasting, the company aims to explore the potential of AI/ML-based solutions to replace their existing in-house system. The primary goal is to provide accurate, item-level weekly demand forecasts to support decision-making and optimize inventory management.

2. Business understanding:

In response to the challenges faced by a leading Australian beverage company, this project aims to develop a robust multivariate forecasting solution. The company, engaged in the sale of beverages through various supermarkets and extensive promotional activities, encounters demand fluctuations driven by factors such as holidays and seasonality. Their in-house forecasting software has yielded unreliable results, prompting the exploration of AI/ML-based forecasting. The project's objectives are to build 4-5 multivariate forecasting models, including ML or Deep Learning in PySpark for parallel computing (or without if preferred), and achieve superior forecast accuracy using metrics such as Weighted MAPE. The emphasis is also on optimizing the model's runtime performance and providing interpretability by showcasing the variable contributions to the forecast.

3. Project life cycle along with deadline:

Week	Tasks to be completed	Due date
7	Data Intake Report and Project Life Cycle	Oct 19, 2023
8	Data Understanding and Data Preprocessing	Oct 26, 2023
9	Data Cleansing and Transformation	Nov 2, 2023
10	Exploratory Data Analysis	Nov 9, 2023
11	EDA Presentation and Proposed ML Models	Nov 16, 2023
12	Model Selection and Model Building	Nov 23, 2023
13	Final Project Presentation	Nov 30, 2023

Data Intake Report

Name: Retail Forecasting Project

Report date: 18-10-2023

Internship Batch: LISUM 25

Version: 1.0

Data intake by: Hande Gul Atasagun

Data intake reviewer: -

Data storage location: Github

Tabular data details: forecasting_case_study.xlsx

Total number of observations	1218
Total number of files	1
Total number of features	12
Base format of the file	xlsx
Size of the data	76 KB