CHANDIGARH UNIVERSITY

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Apex Institute of Technology

Department of Computer Science & Engineering

Introduction to Data Science

Topic: Types of Analytics (Examples)

Part-3

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Predictive analytics with example

Walmart Recruiting – Predicting Store Sales Using Historical Data

- The biggest challenge for retailers like Walmart is **to make predictions with limited historical data**.

- If **Thanksgiving or New Year** comes once a year, retailers like Walmart have **to make strategic decisions** about how the sales will **impact the bottom-line** during the festive season.

- Walmart **hosted a recruiting competition** where job seekers were provided with **historical sales data of 45 Walmart stores** from different regions.

- Each store has multiple departments and the candidates participating in the crowdsourcing competition were **required to predict the sales for each department in the store**.

- Walmart also has **promotional markdown events** for prominent holidays like Christmas, Super Bowl, Labor Day, New Year, ThanksGiving, etc.

- Holiday markdown events were also included in the dataset provided by Walmart to add up to the challenge as the sales for **holiday seasons were evaluated 5 times higher than the sales for non- holiday weeks**.

- The **most challenging part** of the competition was **to predict which departments** were **largely affected** by the holiday markdown events and what was the level of impact they had on the sales.

Description of Walmart Dataset for Predicting Store Sales

- **stores.csv –** This file contains data about all the 45 stores indicating the type and size of each Walmart store.

- **train.csv-**This file has historical training dataset from 2010 to 2012 containing the below information-

i) The Store Number

ii) The Department Number

iii) The Week

iv) Weekly Sales of a particular department in a particular store.

v) IsHoliday to indicate if it is a holiday week or not.

- **Features.csv-** This file contains additional information about each store, the department, and regional activity for the mentioned dates with details like the store number , the average temperature in the region , the cost of fuel in that region, the unemployment rate, the consumer pricing index, whether the give date/week is a special holiday week or not, data related to promotional markdowns that Walmart is running.
- **Test.csv-** It is just similar to train.csv except that the weekly sales are withheld in this file and the sales predictions have to be made for every triplet of the store, department and the date.

Use market basket analysis to classify shopping trips

To serve its customers better, Walmart enhances customer experiences by segmenting their store visits based on different trip types. Regardless of whether a customer is- on a last-minute run looking for new puppy supplies or is just taking a leisurely troll down the store shopping for weekly grocery.

Classifying different trip types helps Walmart enhance customer shopping experience. Initially, Walmart's trip types are created by combing art i.e. existing customer insights and science i.e. purchase history data. A new challenge that can be solved using the Walmart dataset is to classify customer trips to the Walmart store using only transactional dataset of the products purchased so that the segmentation process can be refined.

If you are preparing for a data analyst or data scientist interview at Walmart then here are few interview questions that will help you prepare for your data analyst or data scientist job interview at Walmart -

Walmart Data Analyst Interview Questions

1) How will you deal with an experienced professional who consulted you but does not believe in your analytical insights and sticks to his older analytical methods ?

2) Given the acess to Walmarts HR data, what would you be interested to search for ?

Homework

- Explain the approach of predictive analytics with the help of an example.

Thank you

Please Send Your Queries on:

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