* Inventory Demand for bakery

1. What is the problem you want to solve?

Maximize sales and minimize returns of bakery goods. Develop a model to accurately forecast inventory demand based on historical sales data.

1. Who is your client and why do they care about this problem? In other words, what will your client DO or DECIDE based on your analysis that they wouldn’t have otherwise?

Currently, daily inventory calculations are performed by direct delivery sales employees who must single-handedly predict the supply and demand based on their personal experiences with each store. With some bakery items carrying a one week shelf life, the acceptable margin for error is small. Forecasting inventory demand will increase customer satisfaction and reduce surplus product unfit for sale.

1. What data are you going to use for this? How will you acquire this data?

Data will be downloaded from Kaggle

<https://www.kaggle.com/c/grupo-bimbo-inventory-demand/data>

The dataset given consists of 9 weeks of sales transactions in Mexico. Every week, there are delivery trucks that deliver products to the vendors. Each transaction consists of sales and returns. Returns are the products that are unsold and expired. The demand for a product in a certain week is defined as the sales this week subtracted by the return next week.

1. In brief, outline your approach to solving this problem (knowing that this might change later).

Explore the 9 week dataset using R code and develop a forecasting algorithm.

1. What are your deliverables? Typically, this would include code, along with a paper and/or a slide deck.

Develop the code and slides.

* Average Rent by Neighborhood in California

1. What is the problem you want to solve?

Determine an Average rental price based on historical and current rental data. This would help determine an average rental price for the property

1. Who is your client and why do they care about this problem? In other words, what will your client DO or DECIDE based on your analysis that they wouldn’t have otherwise?

A great way to rent your property is to advertise online. Lot of sites will require you to pay a fee to advertise but some sites like Craigslist let you advertise for free.

Rental prices are based on the various parameters like property size, neighborhood, housing type, parking etc., due to which deciding the rental price of the home can be difficult for the landlords.

1. What data are you going to use for this? How will you acquire this data?

Data will be scrapped from Craigslist listing.

1. In brief, outline your approach to solving this problem (knowing that this might change later).

Create a data set using parameters like property size, neighborhood, parking etc. and evaluate the ongoing rental price.

1. What are your deliverables? Typically, this would include code, along with a paper and/or a slide deck.

Develop the code and slides.

* Stock Market Forecasting

1. What is the problem you want to solve?

Given historical stock performance and a host of masked features, predict intra and end of day returns.

1. Who is your client and why do they care about this problem? In other words, what will your client DO or DECIDE based on your analysis that they wouldn’t have otherwise?

It is a Kaggle competition

<https://www.kaggle.com/c/the-winton-stock-market-challenge>

1. What data are you going to use for this? How will you acquire this data?

Data will be downloaded from Kaggle

<https://www.kaggle.com/c/the-winton-stock-market-challenge/data>

They provide 5-day windows of time, days D-2, D-1, D, D+1, and D+2. You are given returns in days D-2, D-1, and part of day D, and you are asked to predict the returns in the rest of day D, and in days D+1 and D+2.

During day D, there is intraday return data, which are the returns at different points in the day. We provide 180 minutes of data, from t=1 to t=180. In the training set you are given the full 180 minutes, in the test set just the first 120 minutes are provided.

For each 5-day window, we also provide 25 features, Feature\_1 to Feature\_25. These may or may not be useful in your prediction.

Each row in the dataset is an arbitrary stock at an arbitrary 5 day time window.

1. In brief, outline your approach to solving this problem (knowing that this might change later).

Market price movements are not purely random but move in identifiable patterns and trends that repeat over time. Analyze the data provided to understand the trend and technical indicators.

Develop a hypothesis for forecasting.

1. What are your deliverables? Typically, this would include code, along with a paper and/or a slide deck

Code and Slides.