Foundational Project-1: Projects List

Guidelines for the Proper Execution of Projects

The projects completed by members are expected to reflect quality and be innovative. While working on the projects each team is to follow the given guidelines-

- The projects will be done in a group setting. All the members involved in the project will actively participate in all aspects of the project, be it coding, visualizing, or analyzing data.
- The aim of these projects is for an individual to work and learn in a group setting. The formation of groups is merely to encourage teamwork.
- For Evaluation purposes, each member is to submit one code as a group and present it within the timeline given at the beginning of the project.
- You are expected to work as a team and contribute equally at every level of the project. If, it is found that only a few members have put in efforts in completing the project. We may ask the non-contributing members to work on a different project all by themselves.
- The objective of these projects is to give you exposure to the real working environment. Therefore, the selection of the problem has to be such that it allows you to apply all the skills and concepts you have learned during Term 1 and 2 and apply them to the project in hand.
- If you fail to collect data say from Twitter beyond a day or time limit allotted, remember that this is the same limitation for all the groups. So, give your best to find alternative ways of

extracting information or find meaningful ways of deriving insights from the limited data.

- Use any data sources of your choice and do not limit yourself to the data sources that are provided to you at the beginning of the project.
- The coding scheme for the projects is 3N-B. Please note that you are expected to submit code, power point presentation and a report at the end of the project.

You can choose from any of the 4 projects given as Foundational Projects-

Project 1:

Background

Stock prices fluctuate rapidly multiple times within a second. Investing in stocks using a hunch may throw us into losses, but taking an informed decision will always yield good results. There are a lot of stock value prediction models out in the market, but alas! all those models have poor accuracy.

Objective: Content Creator

You have to work on developing a stock value prediction model which will provide better accuracies. To build the model, the factors which influence the market value have to be extracted. The objective of this project is to build a Stock Market sentiment analysis model using news articles. You have to scrape the relevant information about a company from various news channels, perform sentimental analysis and emotion mining along with other NLP-related tasks to define a quantified index that can further help in predicting the stock price.

Data Sources

Social media

News Channels

Wikipedia

Public forums

Project 2

Background

The automobile industry has seen an advantage out of the Pandemic situation, especially the 4-wheeler businesses have seen a sudden rise in the last quarter of 2020.

Local Businesses have seen a rise in their revenue and want to take advantage of Analytics to be prepared for the forthcoming business opportunity.

Objective

Track the sales and reviews for Automobile related products on Amazon and other e-commerce sites along with gathering information by analyzing the trends and patterns based on the posts on social media platforms including Twitter, Facebook, Instagram, WhatsApp, and others. You are to analyze articles about this conglomerate on business and stock market sites and forums from across the world. Scrape the news and related sites.

Data Sources

-News and Events forums

-Survey Data (from automobile service stores)

-Manufacturing Company related Data (websites, social media pages, etc)

-Social Media (Twitter, Facebook, WhatsApp, Instagram, or others)

-Third-party sites (where you can get historical tweets)

-Google Trends

-Portals and Archives

-Business news and stock market news sites and portals

Project 3- Trending **Jobs**

Background

The Pandemic has changed our working culture and has affected our professional careers. We have seen a lot of job cuts in some of the major IT companies and likewise in all the sectors. The employee churn has been at the peak due to the Coronavirus effect. HR teams have an additional responsibility to make sure employee retention is maintained and new hiring is done at a minimal cost.

Objective

The objective of this project is to minimize the cost of recruiting a candidate for the company. You have to scrape through the profiles which are publicly available on various job portals, and using NLP techniques extract the features from the resumes. Then arrange them in a structured form to create a database of required skill sets. Later develop a resume Automatic Tracking System (ATS) model which maps these profiles with the Job description using a score. Finally, with the help of the model, predict the candidate who would accept the offer.

Data Sources

Job Portals

LinkedIn

Project 4

Background

Food outlets are everywhere, whether it is online or offline, serving mouth-watering food has always been a trending business.

If you look at the analytics being used in this food business it's negligible. Menu designs with attractive food images to get the attention of the customers, getting reviews, chatbots, etc are some of the basic technology-based solutions that are available globally today.

Objective

Track the customer's tastes and preferences based on seasons and moods, by using historical data along with personalized survey data. People may be allergic to specific foods or smells which may result in a very serious problem if neglected. You have to gather as many details as possible from primary and secondary data sources available and develop a Personalized Recommendation Model for Foodies.

Data Sources

Public forums (for menu)

Survey data (for personalized preferences)