***PES UNIVERSITY ELECTRONIC CITY CAMPUS***

***DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING***

***INTRODUCTION TO DATA SCIENCE***

***PROJECT SYNOPSIS***

**BATCH NO** :- 18

**PROJECT TITLE** :- Predicting Recession using Yield Curve Analysis

**ABSTARCT** :- A large part of a retail store company’s job is to analyze customer purchase trends and predict when and how customers make the most purchases. We plan on assisting them in this job by analyzing the past sales data to elaborate on the effect of holidays, CPI, unemployment, discounts and other factors on the weekly sales data. Using the analysis, we will be predicting the weekly sales data as well.

Buying groceries is one of the most common tasks in everyone’s life. We were motivated to take up this idea after seeing that such a simple task has so much of data analysis involved in it and is essential for the survival of any retail store.

There are three Datasets covering the historical sales data for 45 stores located in different regions, each containing a number of departments.

* Sales Dataset: It contains the historical sales data, which covers to 2010-02-05 to 2012-11-01. It consists of the following fields:
  + Store
  + Department
  + Date
  + Weekly Sales
  + Is Holiday
* Stores Dataset: Anonymized information about the 45 stores indicating the type and size of store.
* Features Dataset: It contains additional data related to the store, department, and regional activity for the given dates. It consists of the following fields:
  + Store
  + Date
  + Temperature
  + Fuel Price
  + Markdown
  + CPI
  + Unemployment
  + Is Holiday

**DATASET NAME** :- US Treasury Bond Interest Rates

**DATASET LINK** :-

<https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldAll>

https://fred.stlouisfed.org/series/JHDUSRGDPBR

**STUDENT DETAILS**

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