Predictive Modeling in GST

NAME OF GROUP MEMBERS

1.SANSKAR USRETAY(22BAI10399)

2.NISHANT (22BAI10051)

3.RAHUL KUMAR(22BAI10247)

ABOUT OUR MODEL

This model is used to generate GST of the product using large language model(LLM) and neural network. This model takes input row amount of product and returns the product type with GST along with its HSN CODE. The project is consists of two models first model is used to calculate the GST and second model is used to find the HSN CODE of given product. We have trained large amount if data in Large Language Model(LLM) which consists of the field name of the product and its HSN CODE value. The second model is trained on a dataset where product descriptions are mapped to their corresponding GST rates. The GST model used neural network that learns the relationship between product descriptions and GST rates. The model is having an accuracy of more than 92%.

Data Collection

Firstly, the huge dataset is taken which contains the field HSN CODE and HSN Description

Model Evaluation

Evaluate model performance on the test data using metrics such as accuracy, precision, and recall

Model Monitoring

Monitor the model's performance over time and retrain as needed to maintain accuracy

1 **2** **3** **4** **5**

Model Training

Split data into training and testing sets by using large language model(LLM) and train the model on the training data

Model Deployment

GST model is made by evaluating the model using neural network which provide a precise accuracy for a given product

Interpreting Model Outputs

```
Enter Number of items: 3
Enter the Discription of food: Milk
Enter no. of Quantity1
Enter rate without GST: 32
Enter the Discription of food: Coffee
Enter no. of Quantity2
Enter rate without GST: 12
Enter the Discription of food: Ice-cream
Enter no. of Quantity2
Enter rate without GST: 12




  Description of Foods HSN Code  No.of Quantity  \
0                 Milk    040110             1.0
1               Coffee    090130             2.0
2            Ice-cream    210590             2.0
3                Total      None             NaN

   Rate without GST per kg\litre  Rate_with_GST per kg\litre  GST_percentage  \
0                           32.0                       33.60             5.0
1                           12.0                       12.60             5.0
2                           12.0                       13.08             9.0
3                            NaN                         NaN             NaN

   Total Rate without GST  Total Rate with GST
0                    32.0                33.60
```

```
  Description of Foods HSN Code  No.of Quantity  \
0                 Milk    040110             1.0
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   Rate without GST per kg\litre  Rate_with_GST per kg\litre  GST_percentage  \
0                           32.0                       33.60             5.0
1                           12.0                       12.60             5.0
2                           12.0                       13.08             9.0
3                            NaN                         NaN             NaN

   Total Rate without GST  Total Rate with GST
0                    32.0                33.60
1                    24.0                25.20
2                    24.0                26.16
3                    80.0                84.96
```