

Project 4 [Which food do Americans prefer: Italian or Mexican food?]

Final Project Requirements: Demystifying ML

01

Find a problem worth solving, analyzing, or visualizing.

02

Use machine learning (ML) with the technologies we've learned.

03

You must use Scikit-learn and/or another machine learning library.

04

You must use at least two of the following:

Python Pandas
Python Matplotlib

HTML/CSS/Bootstrap
JavaScript Plotly
JavaScript Leaflet

Tableau
SQL Database
MongoDB Database

Google Cloud SQL
Amazon AWS

The requirements for this project are broken into 5 categories:

01

Data and data delivery

02

Back end (ETL)

03

Visualizations

04

Group presentations

05

Slide deck

Member : (https://github.com/caleighteahan/Capstone_Project.git)

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Data :

https://docs.developer.yelp.com/reference/v3_business_search (Yelp API)

Yelp API restaurant data (Project 3 data):

- What could we predict? Predict price? Predict rating by cuisine.
- Can use location data to make robust visualizations through Tableau and/or JavaScript Leaflet
- Analyze pricing trends?
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- We can build a predictive model to estimate the price range of a restaurant based on various features such as location, cuisine type, customer reviews. This can help users filter restaurants by their budget.
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- We can create a model that predicts a restaurant's rating based on its cuisine type

Predicting Seasonal Trends:

- Analyze review data to predict seasonal trends in customer preferences and behaviors for businesses in various industries.

Data Description:

Analyzing Yelp restaurant data by coastal (CA, NY) to predict seasonal trends in customer preferences and behaviors for businesses in various industries. In addition to that training the two different models predicting restaurant rating and compare accuracy.

Task Breakdowns:

- Vidhya: Extracting and cleaning the data
- Wook: Data Visualization
- Joe: Unsupervised machine learning model
- Nilusha: Tableau visualization
- Caleigh: Supervised machine learning model

Data Preparation: Extracting data from the Yelp API under specified location parameters. Converting the price column to integers. Cleaning and converting data to a Pandas data frame.

Data Visualization: Using Tableau we can visualize locations of restaurants, possibly filter and alter the visualizations based on rating, price, etc.

Machine learning Modeling: Using both supervised and unsupervised learning to train our data to predict a restaurant's rating based on price, location, cuisine and customer reviews.