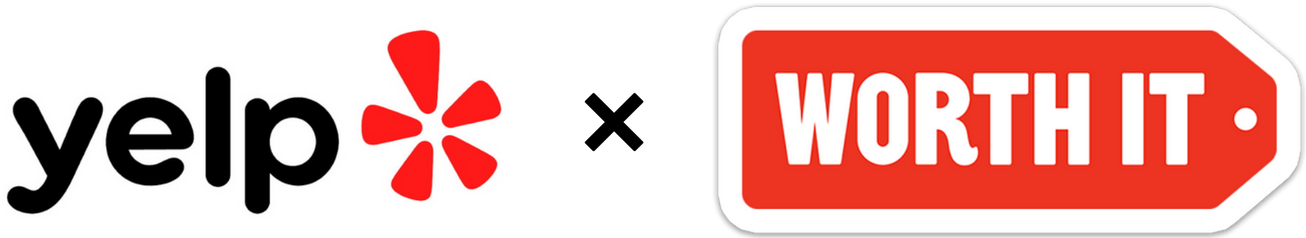
PROJECT 2: ETL



GUARDIANS OF ETL

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PURPOSE & APPLICATIONS

Our group aims to extract key information, such as ratings, price ranges, and more from Yelp to better understand performance, customer engagement, and uncover how the information gathered may correlate.

01 Gain insight to customer feedback by investigating star ratings

02 Understand product value, spending habits through price ranges

03 Make knowledgable and well informed decisions with information on direct market competition

DECOMPOSE THE ASK:

01 Is there a correlation between pricing and customer rating?

02 Is there a correlation between the volume of ratings and customer rating?

03 Which establishment has the most reviews? highest rated?

04 What does the landscape of competitors look like in terms of cuisine? price range?

OVERVIEW

EXTRACT WORKFLOW

+ BeautifulSoup

+ Python
+ Pandas

TRANSFORM WORKFLOW

name	stars	price	cuisine
GRANVILLE	4.5 star rating	$$	American (New)
Soulmate.	4 star rating	$$$	Mediterranean
Employees Only	4 star rating	$$$	Cocktail Bars
Norah	4 star rating	$$	American (New)
Tu Madre - West Hollywood	4 star rating	$$	Mexican
...	...	...	...
Phorage WeHo	4 star rating	$$	Vietnamese
Angelini Osteria	4 star rating	$$$	Italian
Citizen Public Market	4.5 star rating	$$	Food Court
Chibiscus Asian Cafe	4.5 star rating	$$	Asian Fusion
Eggslut	3.5 star rating	$	Breakfast & Brunch

+ Jupyter
+ Pandas

name	cuisine	price	rating
GRANVILLE	American (New)	2.0	4.5
Soulmate.	Mediterranean	3.0	4.0
Employees Only	Cocktail Bars	3.0	4.0
Norah	American (New)	2.0	4.0
Tu Madre - West Hollywood	Mexican	2.0	4.0
...	...	...	...
Phorage WeHo	Vietnamese	2.0	4.0
Angelini Osteria	Italian	3.0	4.0
Citizen Public Market	Food Court	2.0	4.5
Chibiscus Asian Cafe	Asian Fusion	2.0	4.5
Eggslut	Breakfast & Brunch	1.0	3.5

LOAD WORKFLOW

+ Python
+ Pandas
+ PyMongo

EXTRACTION:

+ BeautifulSoup

+ Python
+ Pandas

01 We sourced our data from the desktop version of Yelp

02 BeautifulSoup was used as our HTML Parser to load the web components into our Jupyter notebook

03 We identified business name, rating, price, and cuisine as the pieces of information we wanted to retrieve

04 Using JupyterLab, we set up a loop to extract and store our data into a list of dictionaries using Python and Pandas

05 The resulting dataframe is now ready for the next step: Transform

TRANSFORMATION:

01 With our Jupyter notebook we renamed and reordered the columns using Python to what we felt was most intuitive

02 Removed star rating from the output within the stars column and converted from str to float

03 Replaced the $ price rating system to int-based to be able to manipulate and visualize our data

04 We stored our cleaned dataframe as a .csv file to analyze and visualize. For now, we will proceed with the next step: Load

name	stars	price	cuisine
GRANVILLE	4.5 star rating	$$	American (New)
Soulmate.	4 star rating	$$$	Mediterranean
Employees Only	4 star rating	$$$	Cocktail Bars
Norah	4 star rating	$$	American (New)
Tu Madre - West Hollywood	4 star rating	$$	Mexican
...	...	...	...
Phorage WeHo	4 star rating	$$	Vietnamese
Angelini Osteria	4 star rating	$$$	Italian
Citizen Public Market	4.5 star rating	$$	Food Court
Chibiscus Asian Cafe	4.5 star rating	$$	Asian Fusion
Eggslut	3.5 star rating	$	Breakfast & Brunch

Fig. 01 - Raw Dataframe

+ Jupyter
+ Python

name	cuisine	price	rating
GRANVILLE	American (New)	2.0	4.5
Soulmate.	Mediterranean	3.0	4.0
Employees Only	Cocktail Bars	3.0	4.0
Norah	American (New)	2.0	4.0
Tu Madre - West Hollywood	Mexican	2.0	4.0
...	...	...	...
Phorage WeHo	Vietnamese	2.0	4.0
Angelini Osteria	Italian	3.0	4.0
Citizen Public Market	Food Court	2.0	4.5
Chibiscus Asian Cafe	Asian Fusion	2.0	4.5
Eggslut	Breakfast & Brunch	1.0	3.5

Fig. 02 - Cleaned Dataframe

LOADING:

+ Python
+ Pandas
+ PyMongo

01 Using our Jupyter notebook, we established a connection to MongoDB

02 Then established a database within MongoDB and created a collection to house our dataframe

03 Before storing the dataframe, we needed to covert it to a dictionary using Pandas (.to_dict)

04 Once that was completed, our data was loaded into MongoDB using PyMongo (Fig. 3 see below)

YELP_Worth_It.CSV Data

DOCUMENTS 220 TOTAL SIZE 22.0KB AVG. SIZE 102B | INDEXES 1 TOTAL SIZE 36.0KB AVG. SIZE 36.0KB

Documents | Aggregations | Schema | Explain Plan | Indexes | Validation

FILTER { field: 'value' } OPTIONS FIND RESET

ADD DATA VIEW Displaying documents 1 - 20 of 220 REFRESH

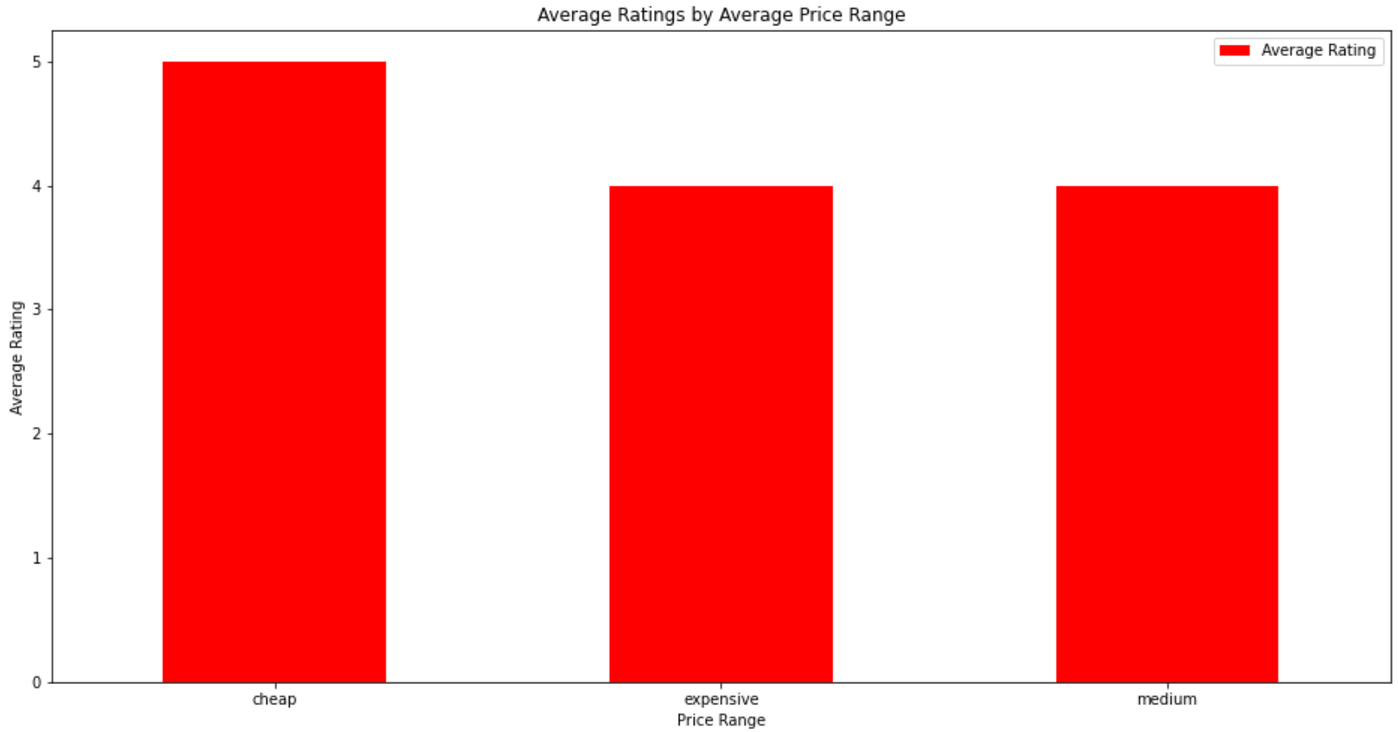
CSV Data

	_id ObjectId	name String	cuisine String	price Double	rating Double
1	614ab1f033e71ea625ffe900	"GRANVILLE"	"American (New)"	2	4.5
2	614ab1f033e71ea625ffe901	"Soulmate."	"Mediterranean"	3	4
3	614ab1f033e71ea625ffe902	"Employees Only"	"Cocktail Bars"	3	4
4	614ab1f033e71ea625ffe903	"Tu Madre - West Hollywood"	"Mexican"	2	4
5	614ab1f033e71ea625ffe904	"Norah"	"American (New)"	2	4
6	614ab1f033e71ea625ffe905	"The Front Yard"	"Tapas/Small Plates"	2	4
7	614ab1f033e71ea625ffe906	"Republique"	"French"	2	4
8	614ab1f033e71ea625ffe907	"Rosaline"	"Peruvian"	3	4
9	614ab1f033e71ea625ffe908	"Zinqué"	"French"	2	4
10	614ab1f033e71ea625ffe909	"Gracias Madre - West Hollywood	"Mexican"	2	4
11	614ab1f033e71ea625ffe90a	"Conservatory"	"American (New)"	3	4
12	614ab1f033e71ea625ffe90b	"Gracias Madre - West Hollywood	"Mexican"	2	4
13	614ab1f033e71ea625ffe90c	"OSTE"	"Italian"	NaN	5
14	614ab1f033e71ea625ffe90d	"The Butcher, The Baker, The Ca	"Breakfast & Brunch"	2	4
15	614ab1f033e71ea625ffe90e	"Yardbird Table & Bar"	"Southern"	3	4.5
16	614ab1f033e71ea625ffe90f	"Bao Dim Sum House"	"Dim Sum"	2	4

Fig. 03 - MongoDB Database

ANALYSIS:

Is there a correlation between pricing and customer rating?



CHEAP

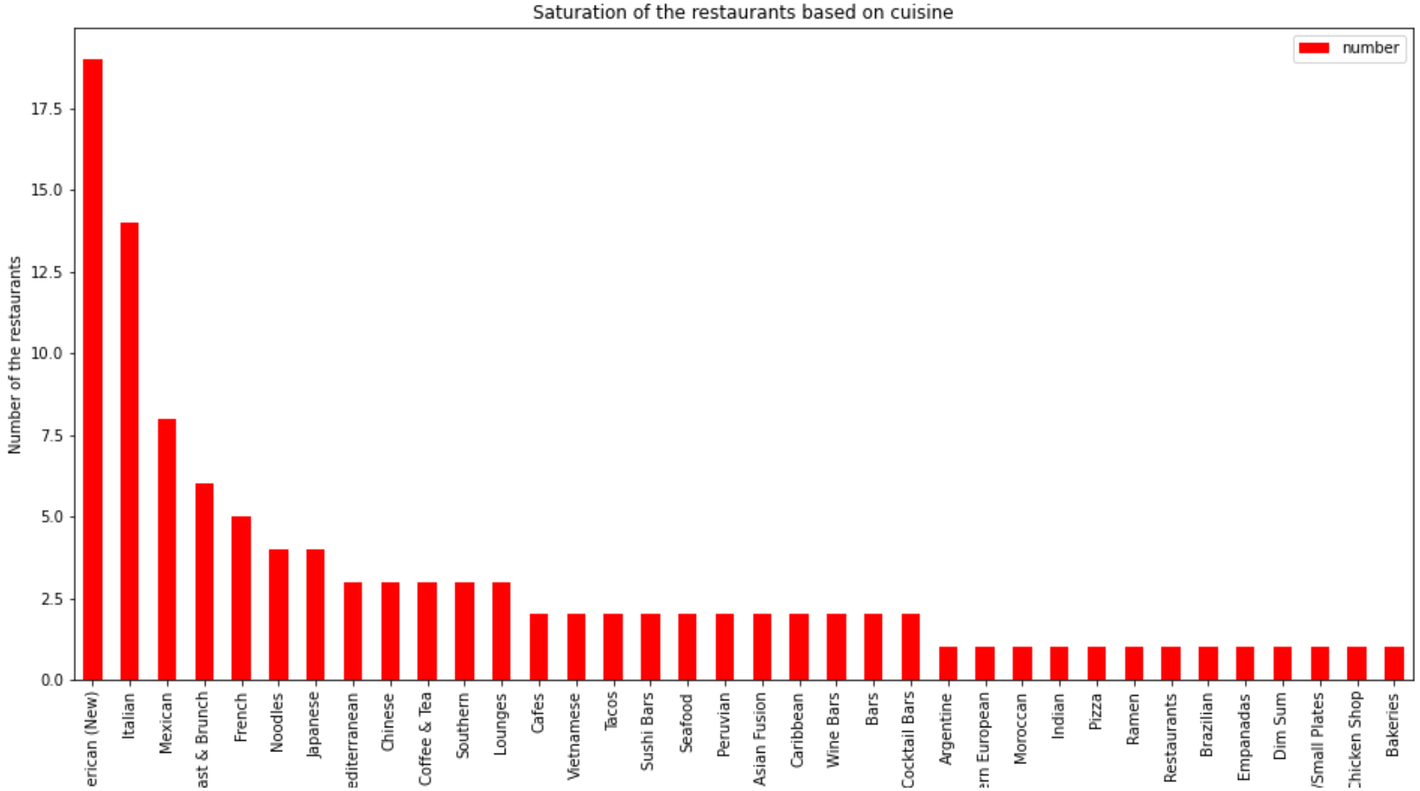
From our data we've uncovered that cheaper restaurants generated, on average, a 5-star rating. We believe this to be due to lower expectations to cheaper costing food.

NO

Our graph showed us that the city of West Hollywood has generally high ratings across the different price ranges.

ANALYSIS:

What does the landscape of competitors look like in terms of cuisine?



AMERICAN

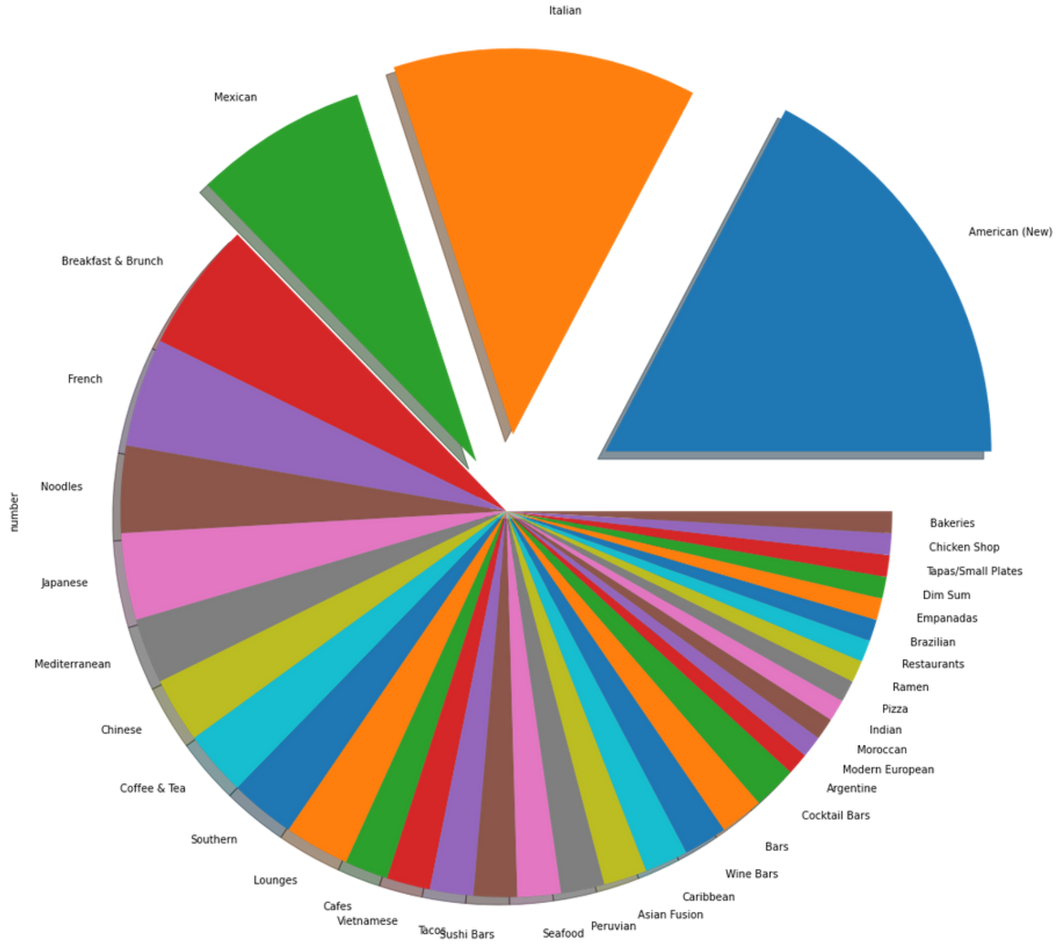
American cuisine was found to be the most prevalent in West Hollywood with a total of 19/110 establishments.

VARIETY

We found that West Hollywood has a total of 36 different cuisines. We also noticed that Argentine, Indian and Korean cuisine have very little to no representation.

ANALYSIS:

What does the landscape of competitors look like in terms of cuisine? (Part 2)

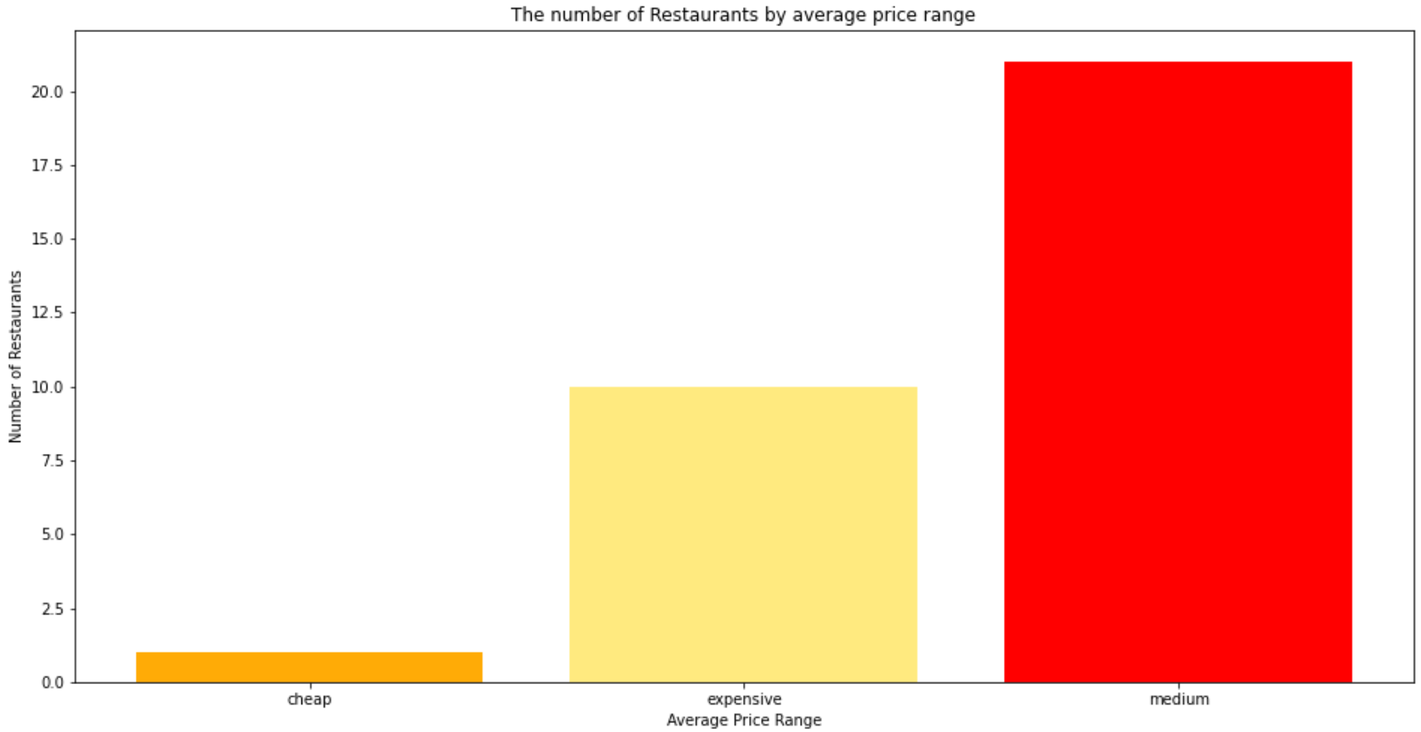


17%

We found restaurants that specialize in American cuisine dominate West Hollywood, comprising 17% of all restaurants in the area. Followed by Italian (12%), and Mexican (7%).

ANALYSIS:

What does the landscape of competitors look like in terms of price range?



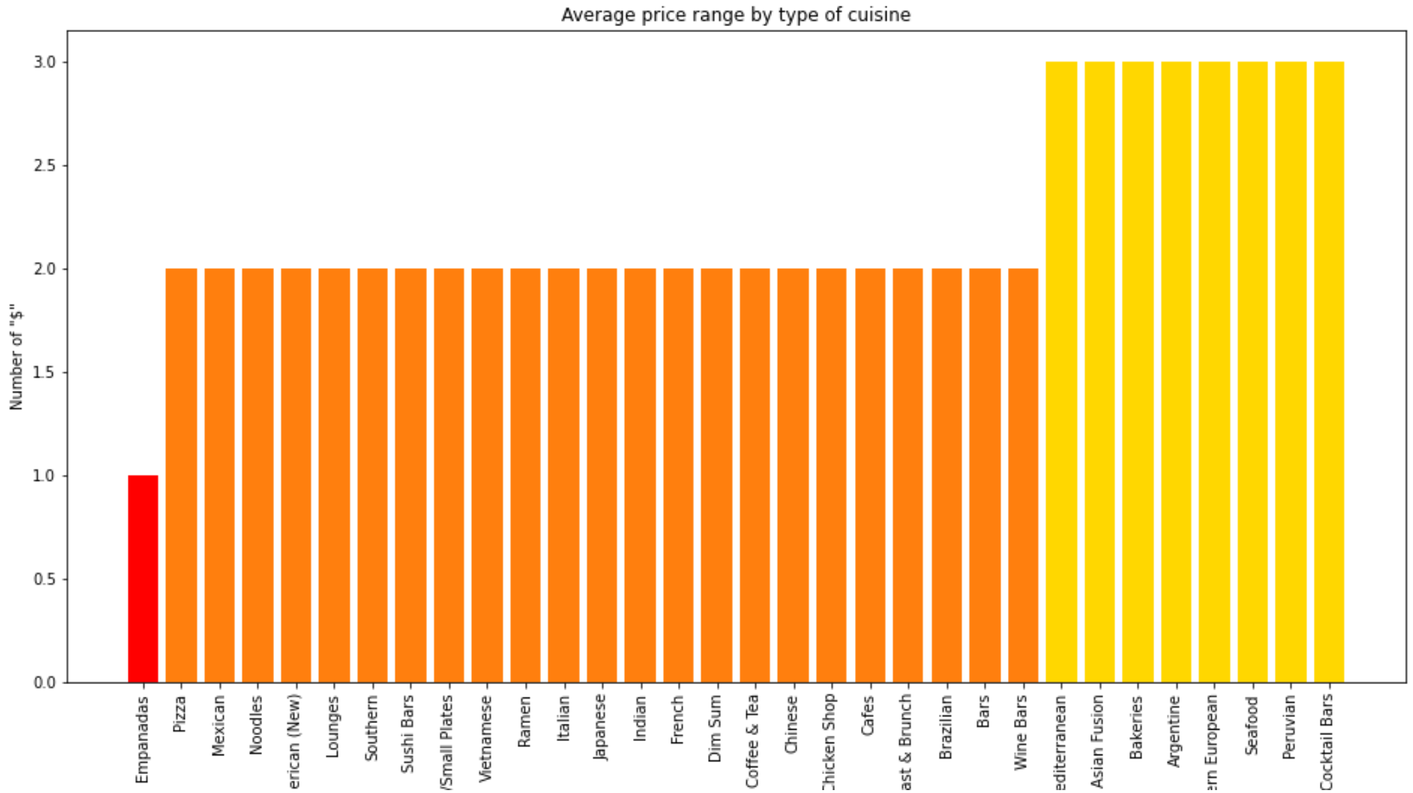
MEDIUM

From our analysis, 65% of restaurants fall within the medium price range, with Expensive (32%) and cheap (3%).

Generally speaking, we believe that medium tiered restaurants represent the best of both the cheap and expensive. Straddling the middle will allow customers to experience the quality and service that expensive restaurants have to offer. While offering a pricing structure that is more accessible to a wider audience.

ANALYSIS:

What is the average price range of each cusine?



MEDIUM

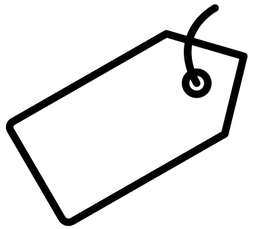
We determined cuisines that fall within the medium price range account for 71% of all cuisines.

Next was the expensive tier making up 25% of the cuisine landscape.

Lastly, the cheap price range represented 3% of total cuisines.

LET'S RECAP!

AMERICAN CUISINE WAS THE MOST PREVALENT, REPRESENTING 17% OF ALL RESTAURANTS IN WEST HOLLYWOOD



IN TERMS OF PRICING, MEDIUM-TIERED ESTABLISHMENTS REPRESENTED 65% OF ALL RESTAURANTS BUT REPRESENTED 71% OF ALL CUISINES.

CHEAP-TIERED RESTAURANTS HAD THE HIGHEST AVERAGE RATINGS AT 5 STARS

LIMITATIONS/ IMPROVEMENTS

With more time we would explore the following items to improve on our project and analysis:

01 Expand our search area from West Hollywood to Los Angeles

02 Explore the number of reviews as a metric to investigate

03 Filter results and reclassify cuisine types to avoid overlap or unnecessary granularity

THANK YOU

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