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# Foodie.AI

YOUR NYC ULTIMATE GUIDE  
FOR FOOD ADVENTURE





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# Team members



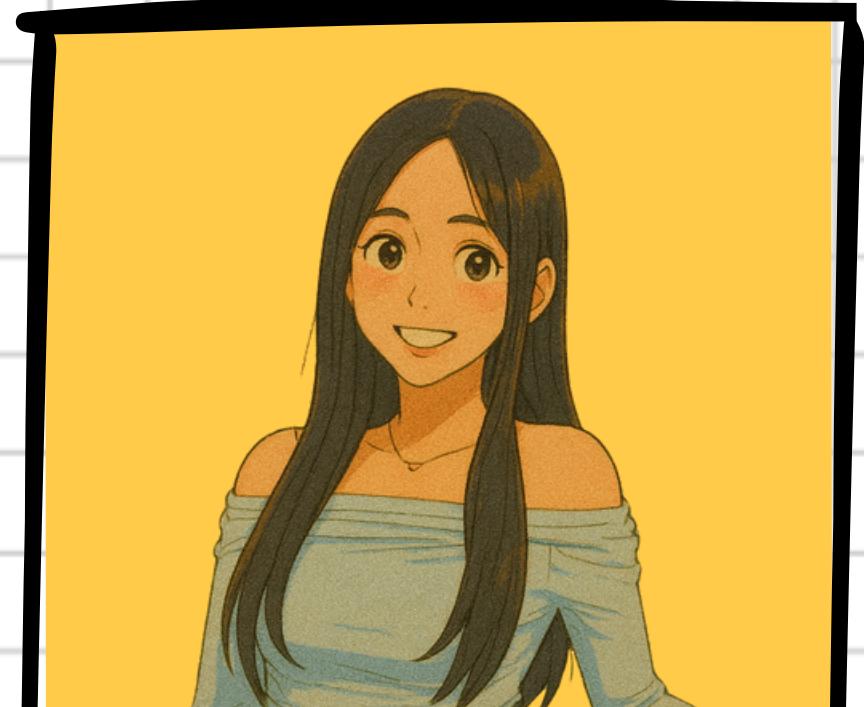
A portrait of a young woman with long dark hair, wearing a brown jacket over a patterned sweater. She is smiling at the camera.

ChengHsin  
Chang  
cc5211



A portrait of a young man with short dark hair, wearing a blue denim jacket over a white t-shirt. He is looking directly at the camera.

Yu-Heng  
Chi  
yc4548



A portrait of a young woman with long dark hair, wearing a light blue off-the-shoulder top. She is smiling at the camera.

Tirada  
Nilphanaphan  
tn2559



A portrait of a young woman with long dark hair, wearing a green and orange patterned hijab and a matching top. She is smiling at the camera.

Sarah  
Pradita  
syp2132



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1

The Problem

2

The Solution

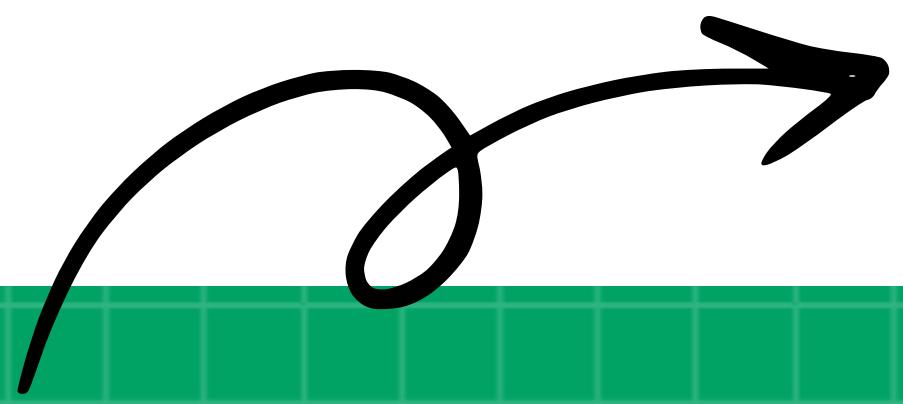
3

The Technical

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Future Improvement

# Content



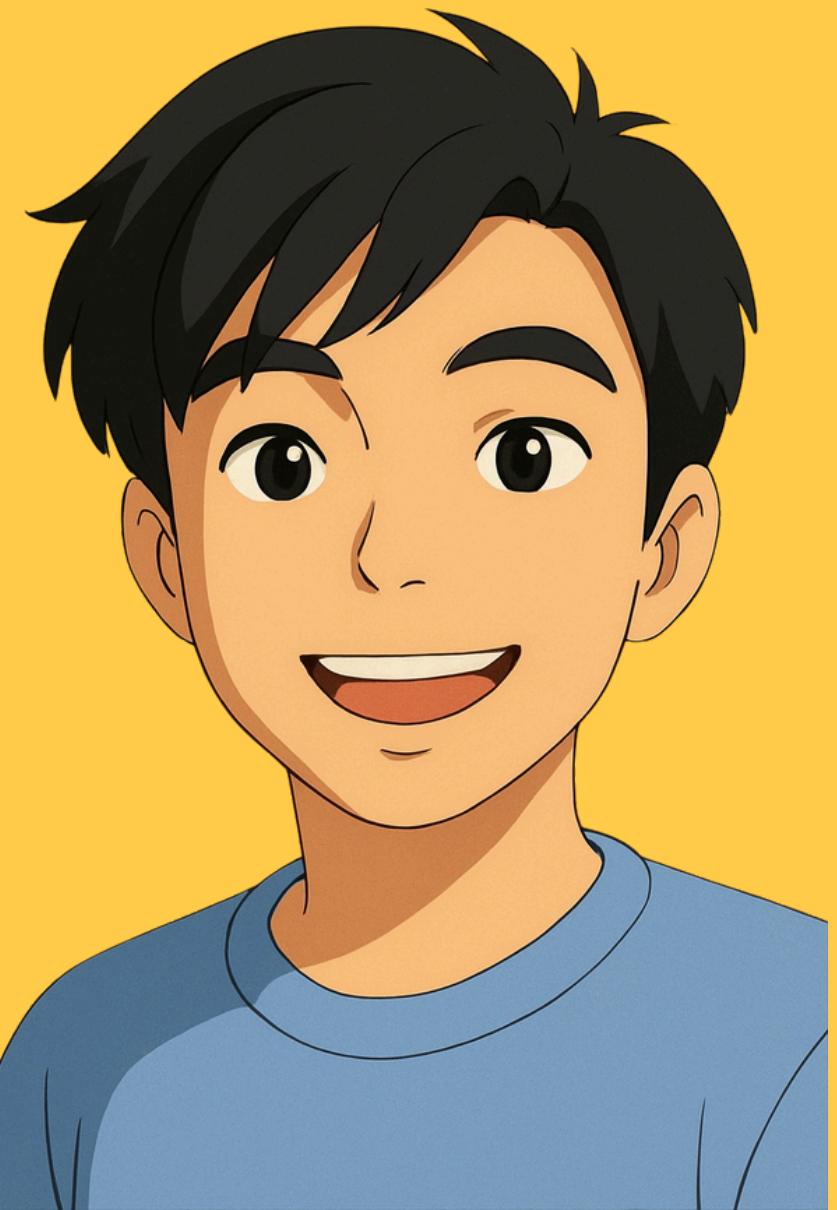


# The Problem



# Persona

## Mark (Age 26, NYC-Based)



- Lives in New York City and loves exploring new restaurants.
- Often hesitates to try new places because he's unsure if the taste will be good.
- Wants to filter options by specific dishes, not just broad cuisine types (e.g., "ramen," "truffle pasta," "mango sticky rice").
- Frustrated that platforms like Google Maps mostly show only cuisine categories (Asian, American, Italian) instead of dish-level options.
- Wants recommendations that match both his favorite dishes and the actual taste quality—based on trustworthy reviews, not popularity hype.
- Frequently searches for new food spots but struggles to make confident decisions.

**"I want to eat spicy Thai crab meat curry in the Midtown"**



# The problem?

Finding the right restaurant in Manhattan is overwhelming

- Thousands of options
- Review platforms show only the most popular places
- Hard to find hidden gems
- Searching for specific needs takes too long
- No platform combines personal taste + AI + safety data



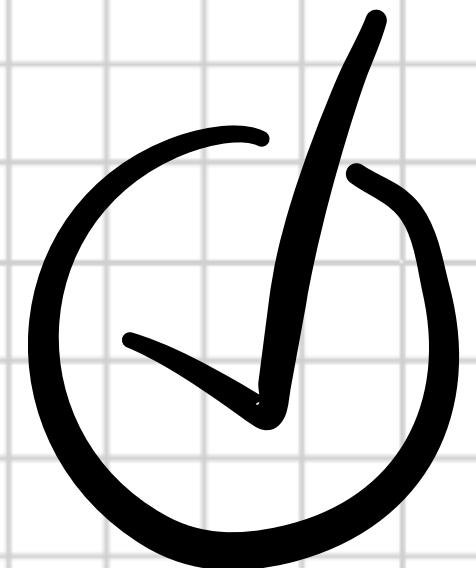
**The Solution**



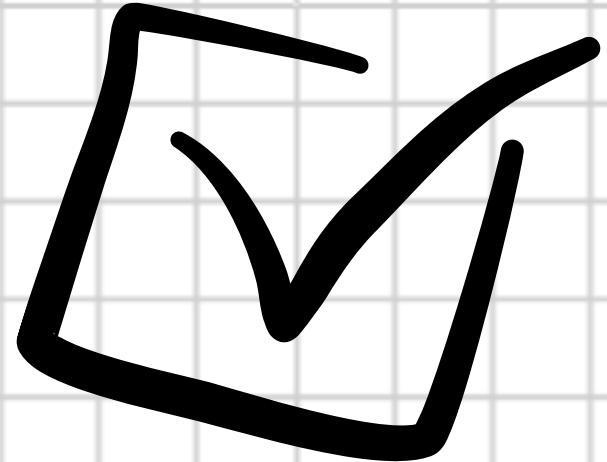
# Our Foodie.AI !

**Foodie.AI** is your smart NYC food guide. It reads your cravings, filters nearby options, and uncovers hidden gems you won't find on Google or Yelp.





# How user search?



1

Describe  
their craving

(Spicy ramen near  
Times Square)

2

Share  
location

(Auto locate or select  
area in Manhattan  
manually )

3

Foodie.AI  
processes  
the request

(Embeddings + ranking  
+ filtering)

4

Display  
ranked  
restaurants

(Menus, Reviews, Address,  
and Descriptions)



**Our Product**



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# Foodie.AI

Your NYC Ultimate Guide for Food Adventure

Discover amazing restaurants in Manhattan with AI-powered recommendations

💡 What are you craving?

Describe your food craving

E.g., spicy Thai crab curry, authentic Italian pasta, cozy coffee shop with WiFi...

📍 Select Location

Harlem



OR

📍 Location Set

✓ **Location found:** Zipcode: 10027 | New York , New York , United States

✓ Automatically selected neighborhood: Harlem

🔍 Find My Perfect Restaurant



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# Foodie.AI

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## ● What are you craving?

Describe your food craving

E.g., spicy Thai crab curry, authentic Italian pasta, cozy coffee shop with WiFi...

📍 Select Location

All Manhattan

▼

OR

❖ Location Set

- ✓ Location found: Zipcode: 10027 | New York , New York , United States
- ✓ Automatically selected neighborhood: Harlem

Q Find My Perfect Restaurant



# How Foodie.AI solve the pain point?

**LAN LARB SOHO**  
Thai

**LOCATION**  
227 CENTRE STREET

**AREA**  
Chinatown

**RATING**  
4.7 ★

**GOOGLE MAPS**  
[View on Google Maps](#)

**79.1% match**

**Review:**

Instagram recommended place! Was completely surprised by the place. The greet at the gate was extremely warm. Quick seating. Thai has always been one of my favorite cuisine and I'm always skeptical about how the food will be. I simply order led the safest dish, Green Curry with Beef and side of brown rice with sparkling water even though the menu was exhaustive. Green curry and red curry are staple and if any place can ace this it means the food is top notch! And oh boy! It was delicious and delicious and delicious! Portion size was exceptionally good. Cute place with equally happy and friendly team running the restaurant. Oh yes I just wished they had the Mango Sticky Rice dessert.

**AI** *LAN LARB SOHO is highly rated (4.7) and praised for its authentic Thai curries, including green curry, which suggests they can handle spicy crab meat curry well. The review highlights excellent flavor and portion size, making it a top match.*

- **Personalizes restaurant choices** based on the user's exact craving, dish preference, and desired location.
- **AI Insight** transforms the user's craving and review data into a clear explanation of why this restaurant is a strong match.
- Displays key details at a glance: location, area, rating, and a direct Google Maps link.





# The Technical



# Technical Flow

## 1. Preprocessing Restaurant Data

### 1.1 Collect Restaurant Descriptions

Pull raw text descriptions of restaurants (menus, tags, reviews, categories, etc.).  
Include metadata such as zipcode.

### 1.2 Generate Restaurant Embeddings

Use an embedding model to convert restaurant descriptions into vectors.

Store results in a structured table:

- Index
- Zipcode
- Embedded Vector



## 2. User Input Processing

### 2.1 User Provides Description

The user enters text describing what they want (e.g., “spicy ramen near Times Square”).

### 2.2 Convert User Input into Embedding

Embed the user’s query into the same vector space:

Example: (0.656, 0.875, 0.964, ...)

### 2.3 Extract User Location

Use a ZIP code (e.g., 10018) or GPS to determine the user’s position.



# Technical Flow

## 3. Intelligent Filtering

Filter Restaurant Embeddings by User Zipcode

- Select only restaurants in matching (or nearby) zipcodes.
- Reduces search space to relevant local options.



## 4. Vector Similarity Search

### 4.1 Cosine Similarity Ranking

Compute cosine similarity between:

- User embedding
- Each restaurant embedding (after zipcode filtering)

### 4.2 Retrieve Top-K Candidates

Return the indices of the most relevant restaurants.

- Top-K: 364, 1024, 1036, 1124...



# Technical Flow

## 5. Post-processing with LLM

### 5.1 Fetch Restaurant Data

- Use the top-K indices to retrieve full restaurant descriptions.

### 5.2 LLM Re-ranking & Customization

- Send user description + top-K restaurant details to an LLM.
- LLM generates a personalized, more detailed recommendation,
  - Explanations
  - Comparisons
  - Dietary constraints
  - User preference matching

## 6. Final Output

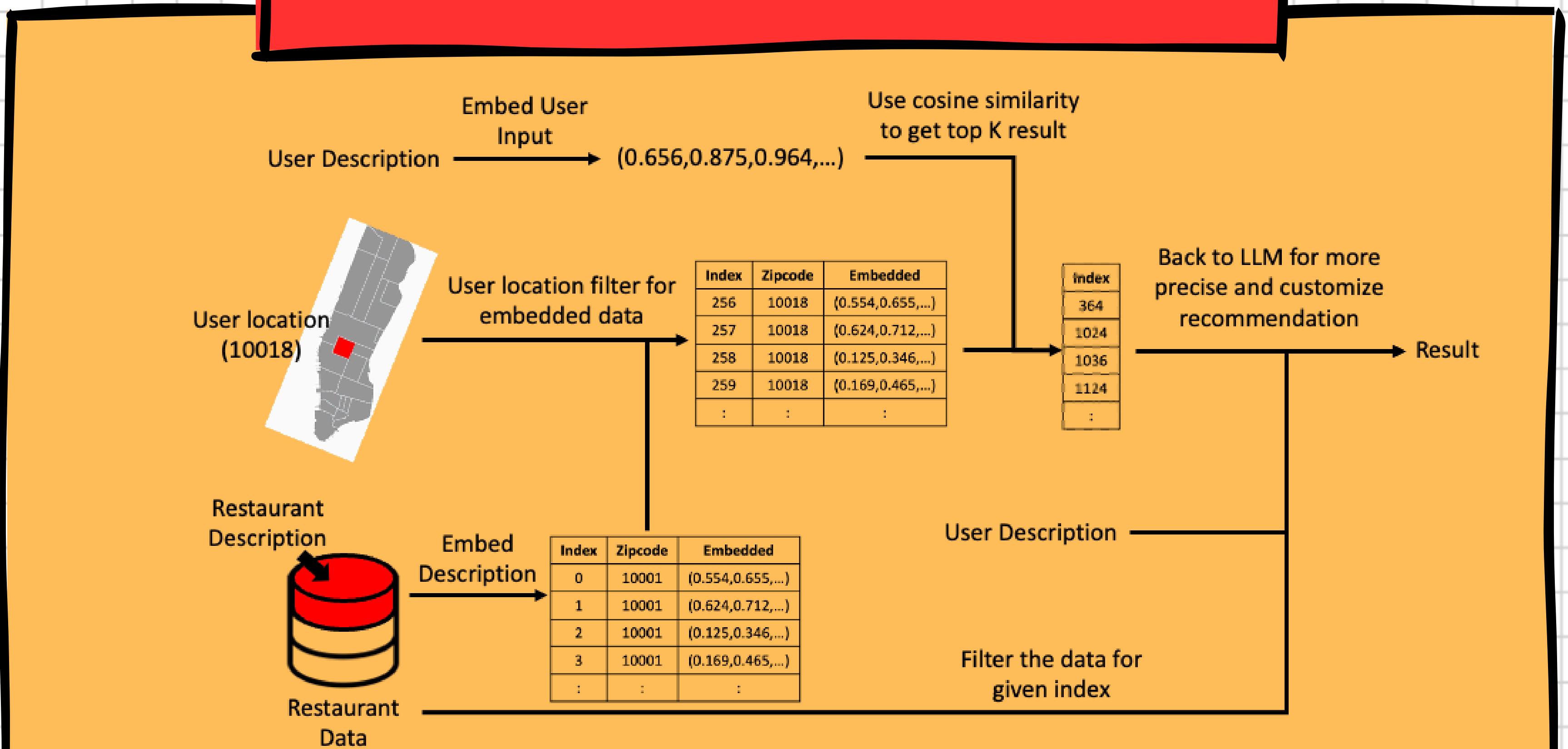
### Present Recommendations

System outputs an easy-to-read, user-friendly result:

- Ranked list
- Explanations
- Key features of each restaurant
- Additional suggestions if needed



# Overall Flow

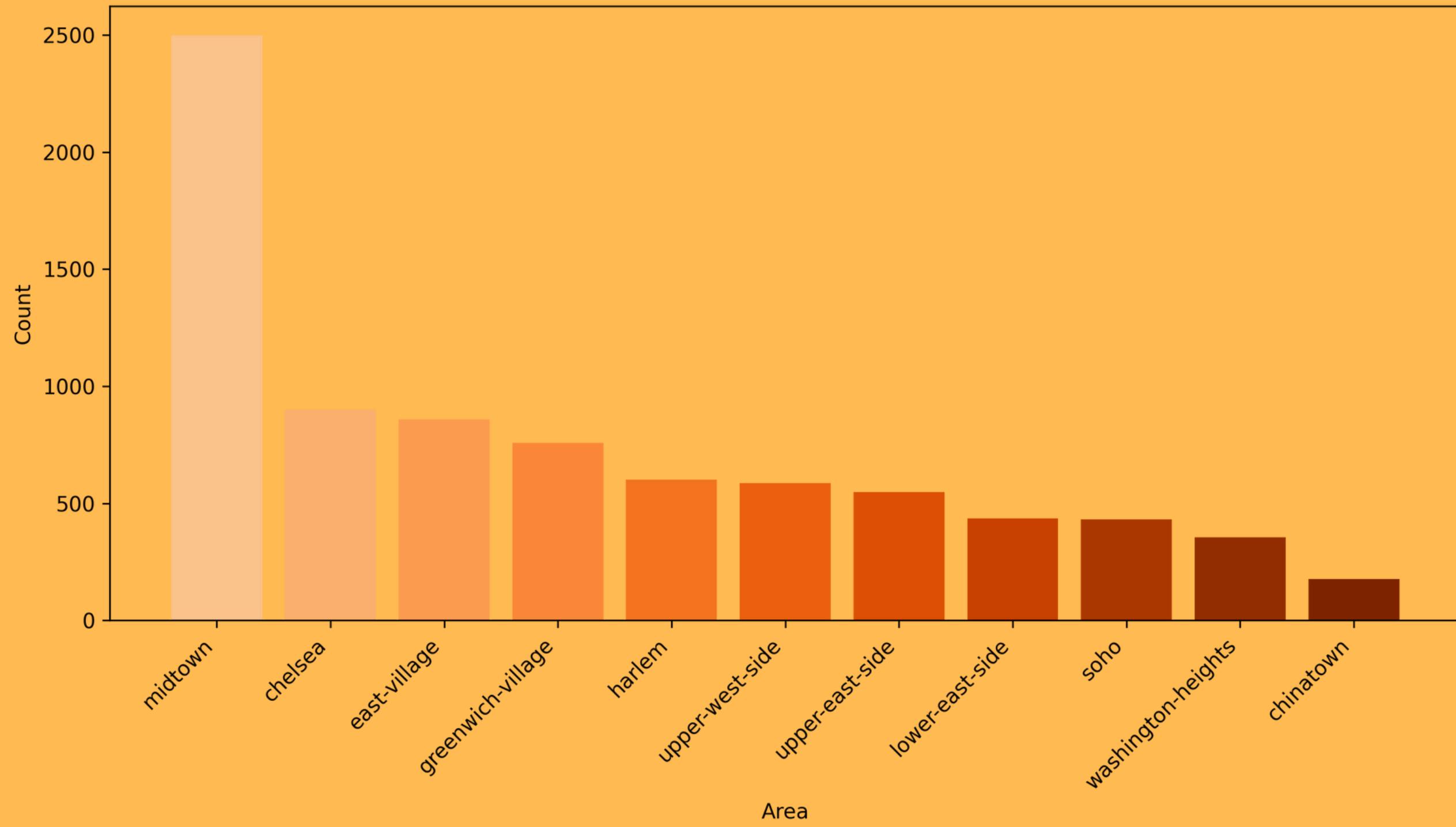




# Data set

## 9k data

Restaurant Count by Area

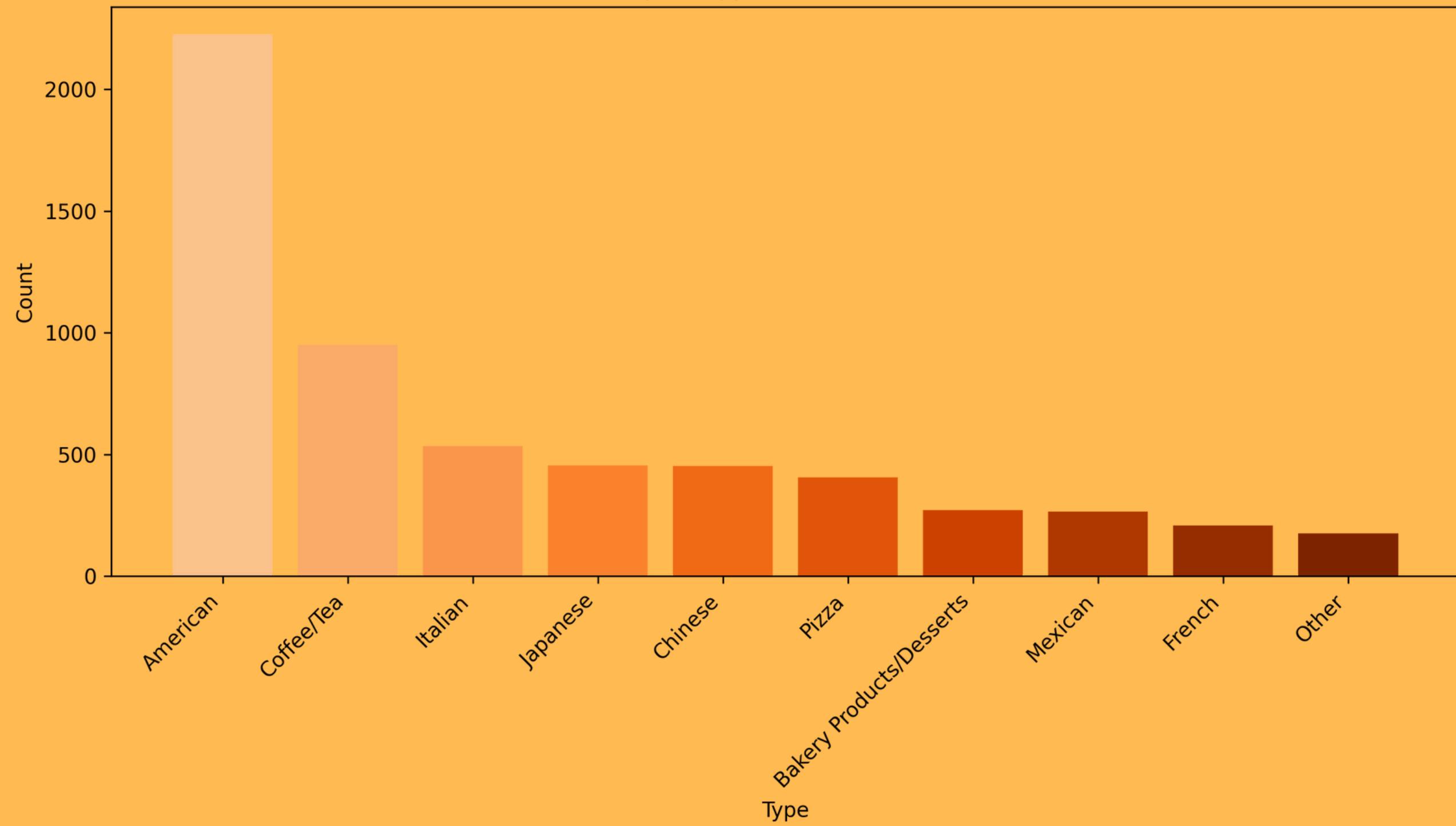




# Data set

## 9k data

Top 10 Types of Restaurant





**Future  
Improvement**



# Future Improvement

## Short Term

- Incorporate additional structured signals into the ranking function (eg. Price level, Waiting Time)
- Implement a learn-to-rank model that combines embedding similarity with these features, trained on aggregated user engagement data.
- Personalization and User Profiles by build user embeddings over time by tracking

## Medium Term

- Dish-Level and Menu-Item Embeddings : move from restaurant-level to dish-level semantic matching
- Better Explainability: Expand AI Insight with review evidence, attribute breakdowns, and confidence levels.

## Long Term

- City Expansion: Scale beyond Manhattan to other boroughs, U.S. cities, and international markets.
- Multi-Modal AI: Use food photos, menu images, and video reviews for richer embeddings.
- Community Features: Social discovery, curated lists, influencer picks, and trusted reviewer rankings.





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# Questions?

*Thank you for Listening*

