

# Restaurant Insights and Recommendations using AI-Integrated Tool

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## Issues & Motivation

### Background

The restaurant industry is highly competitive, with many businesses struggling to identify the right location, cuisine trends, and strategies to succeed. Traditional methods of market analysis can be time-consuming and may not provide comprehensive insights, leading to suboptimal decisions. There is a need for an efficient and intelligent solution to assist restaurant owners and managers in making data-driven decisions to enhance their chances of success.

## Methodology

### Traditional

Traditional methods involve manual analysis of data to identify trends, popular cuisines, and potential locations. This often requires consultation through internal analyst or external consultant to gain insights and recommendations based on their experience and knowledge for each of the specific points the user want to see. The process can be subjective, time-consuming, and prone to human error, making it challenging to make optimal decisions quickly.

### AI-Integrated Tool

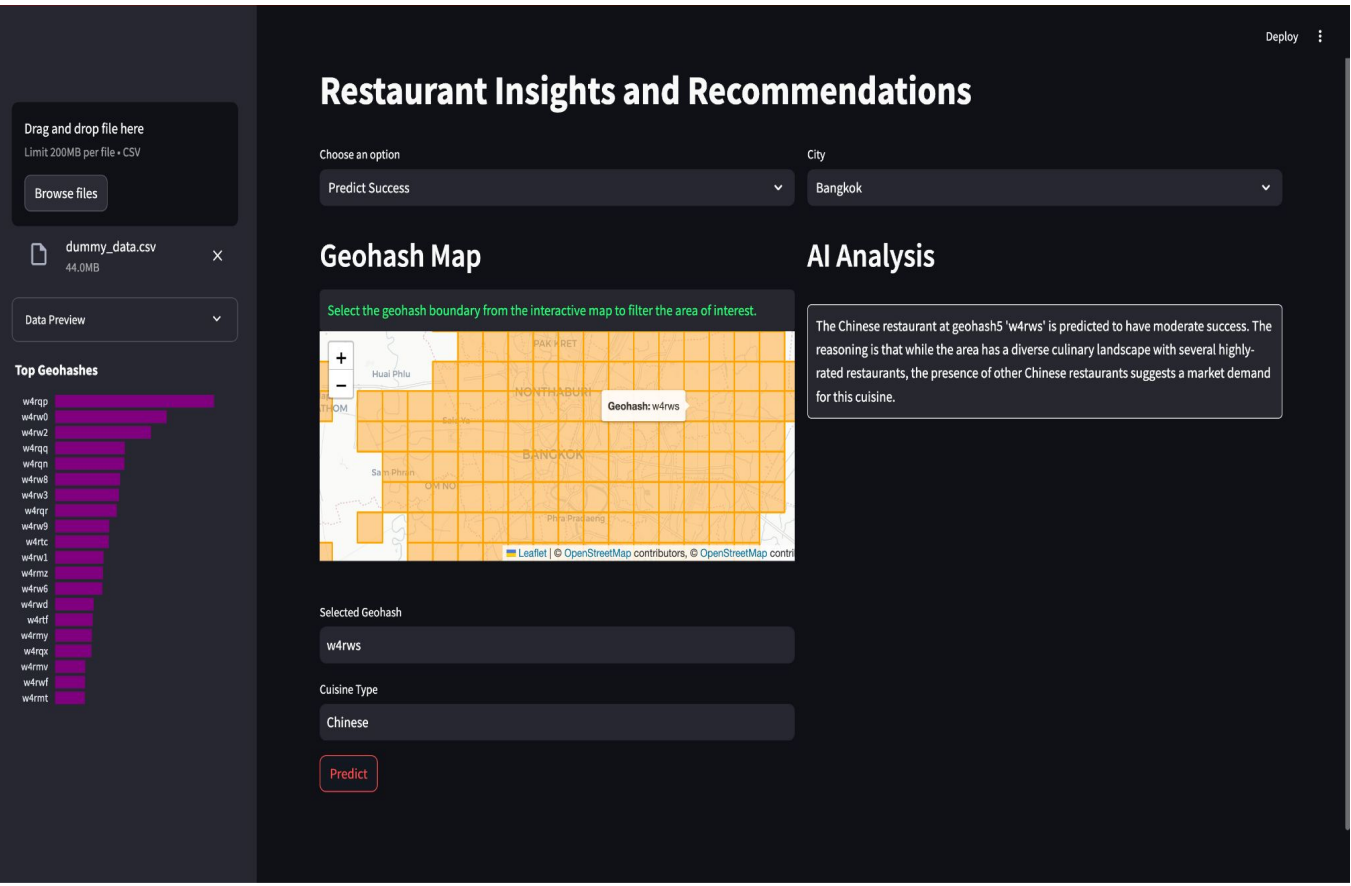
AI-integrated tool offers a streamlined approach by utilizing AI-powered analysis to generate insights. The tool predicts the success of a restaurant at a specific location with a particular cuisine type, analyzes cuisine trends to identify top cuisines and popular dishes, and recommends potential locations for new restaurants based on geospatial data and customer preferences. This enables users to make data-driven decisions quickly and efficiently.

## Restaurants Data

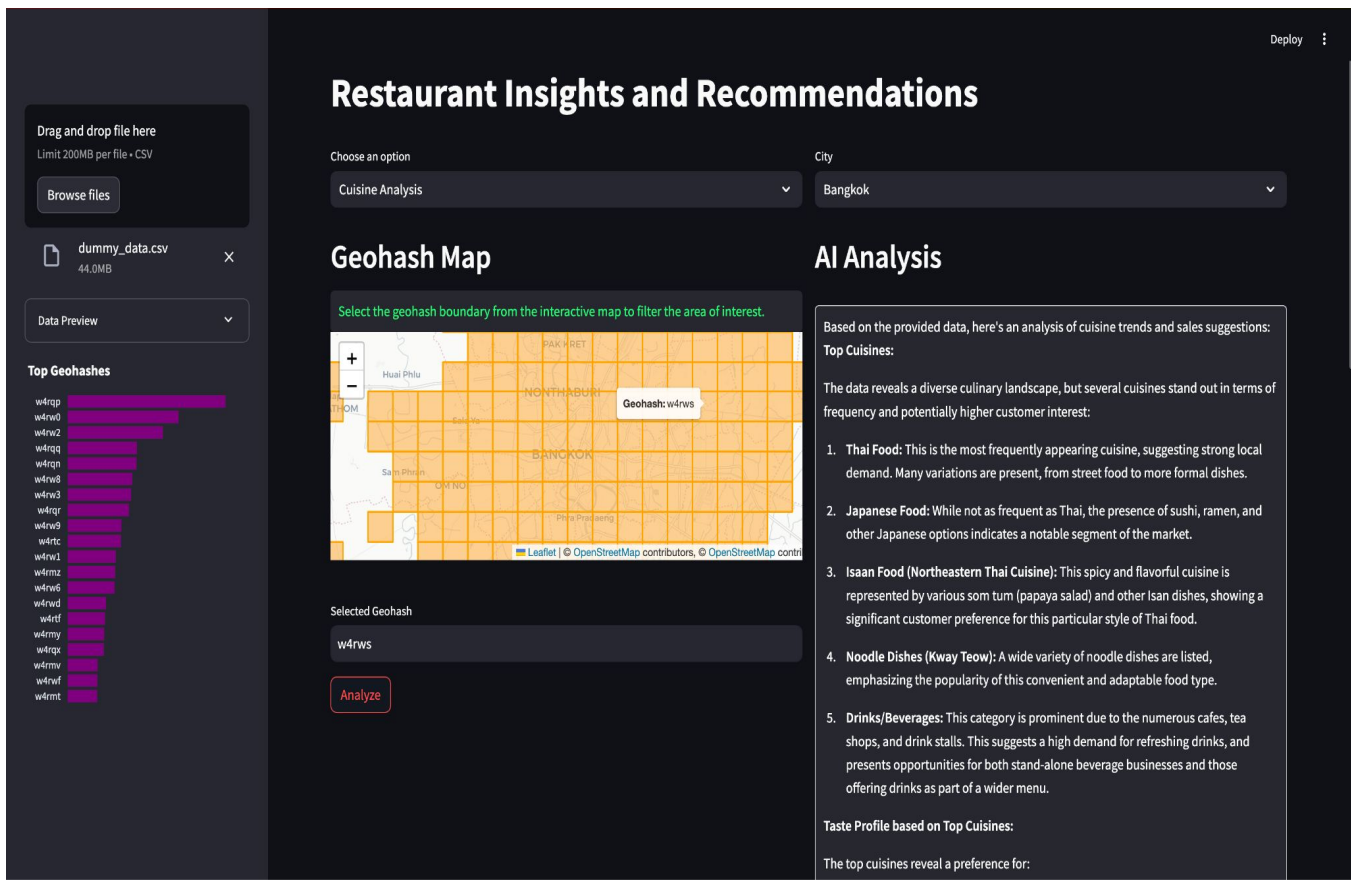
city	mex_id	mex_name	all_cuisines	rating	review_number	latitude	longitude	geohash
Bangkok	158030	mex1	['อาหารไทย']	4.4	35	13.84524206	100.60153958	w4rwc0
Bangkok	165159	mex2	['เครื่องดื่ม']	4.6	54	13.85880450	100.5854569	w4rwbf
Bangkok	114583	mex3	['อาหารญี่ปุ่น']	4.5	207	13.86689381	100.59099449	w4rwch
Bangkok	10147	mex4	['อาหารไทย', 'เครื่องดื่ม', 'แซนวิช']	4.6	251	13.842175	100.595139	w4rw9p

## Features

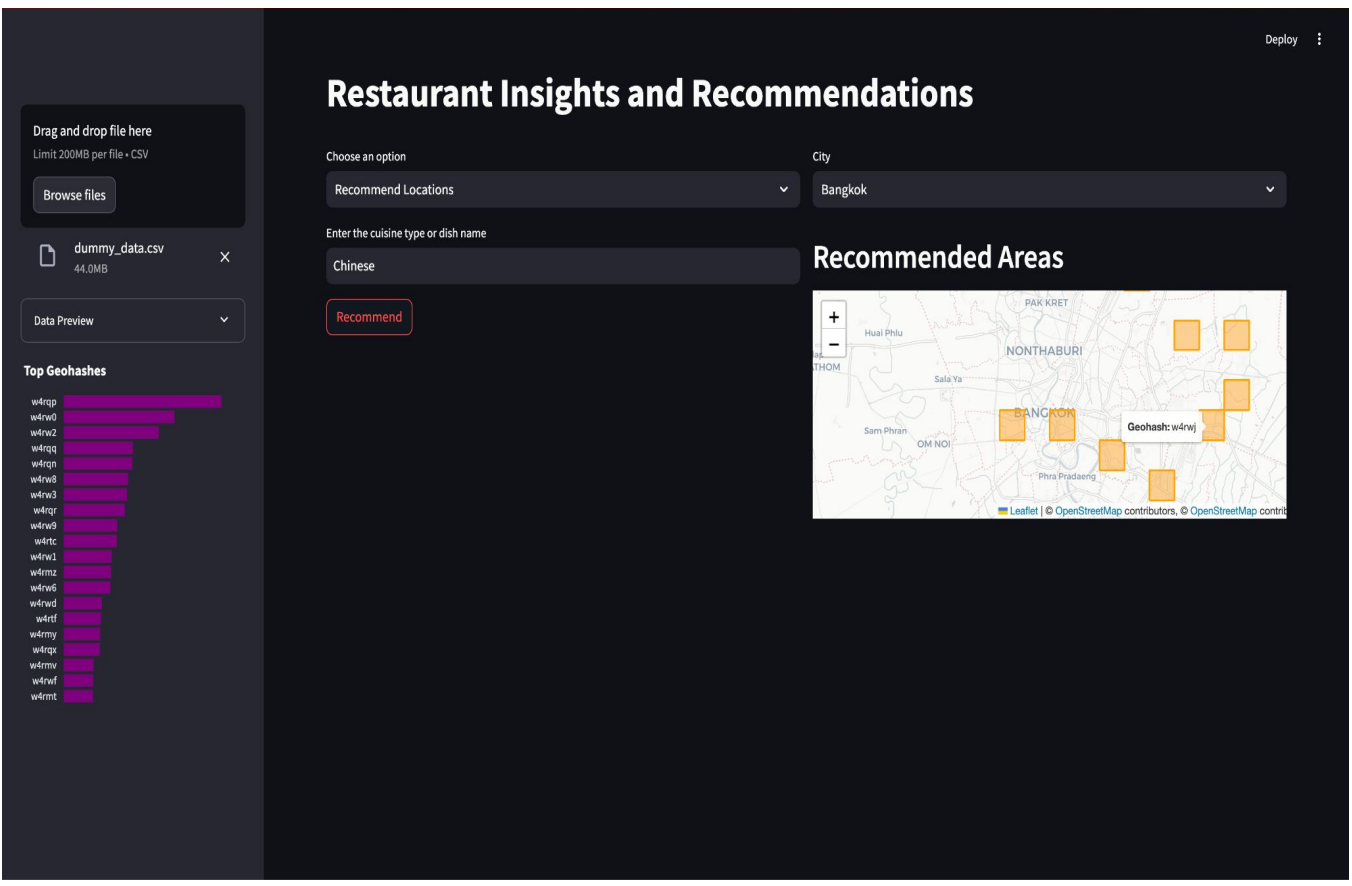
### Predict Success



### Cuisine Analysis



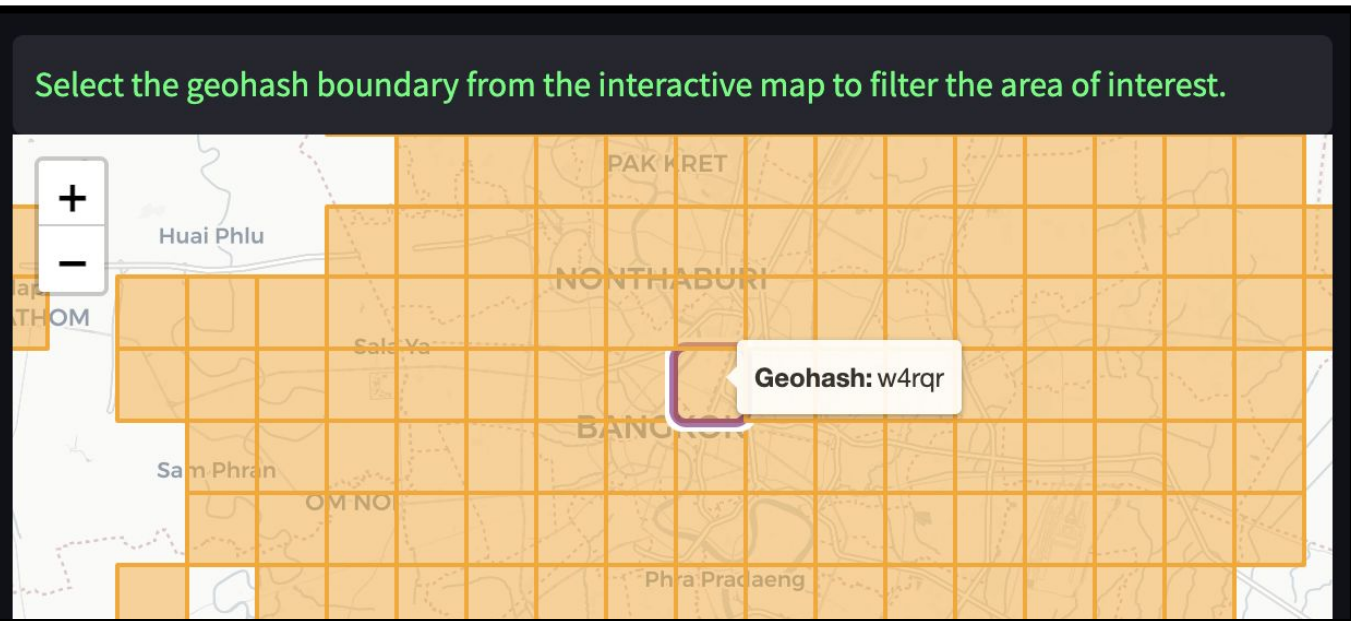
### Recommended Locations



The Predict Success feature uses AI to forecast the potential success of a restaurant at a specific location with a particular cuisine type. By analyzing columns such as name, cuisines, rating, review, and geohash, the AI model provides a prediction along with reasoning for the forecast. This feature helps users make informed decisions about where to open new restaurants or how to optimize existing ones, reducing the risk of failure and increasing the chances of success.

The Cuisine Analysis feature leverages AI to examine customer reviews and ratings to identify top cuisines and taste profiles. By analyzing columns such as name, cuisines, rating, review, and geohash, the AI model provides insights into which cuisines are popular in a given area and suggests dishes that are likely to sell well. This feature helps users stay ahead of market trends, tailor their menus to customer preferences, and enhance their competitive edge.

The Recommended Locations feature utilizes AI to recommend potential locations for new restaurants based on specified cuisine or dish type, analyzed with geospatial data and customer preferences. The AI model identifies the top geohashes where a new restaurant is likely to thrive. This feature enables users to make data-driven decisions about where to expand their business, ensuring they choose locations with the highest potential for success.



### Interactive Map

By selecting geohash boundaries on the map, users can filter areas of interest and view detailed information about restaurant locations, ratings, and reviews.

