DeepChef

A modern recipe recommender

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What is DeepChef?

The what...

Recommender systems have been recently popularized and extensively used in various online platforms, such as e-commerce websites (**Amazon**), social media networks (**Instagram**), video streaming services (**Netflix**), and music platforms (**Spotify**).

These systems play a vital role in **enhancing** user **experiences** and **engagement** by providin **personalized recommendations** tailored to individual preferences and behavior.

DeepChef is a modern recommender system that aims to provide a unique and user-centric culinary experience by using state-of-the-art natural language processing and unsupervised machine learning techniques.

Why Use DeepChef?

Many ways to use Deepchef...

Recipe Exploration

Users could find recipes similar to the ones the find and **enjoy** across the **web** or **cookbooks**! They can simply feed the ingredients lists or instructions of these recipes to **DeepChef**, and receive similar recipes.

Content recommendation for cooking sites

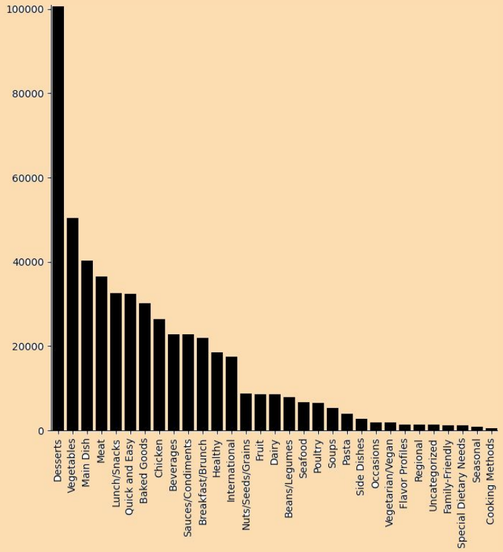
Cooking websites could integrate and fully develop **DeepChef** to complement their more traditional recommendation systems, offering users recipe suggestions based on specific recipe preferences or cuisines.

This could enhance user satisfaction and **engagement**, and ultimately drive more **views** and **revenue** for these websites.

Project Steps

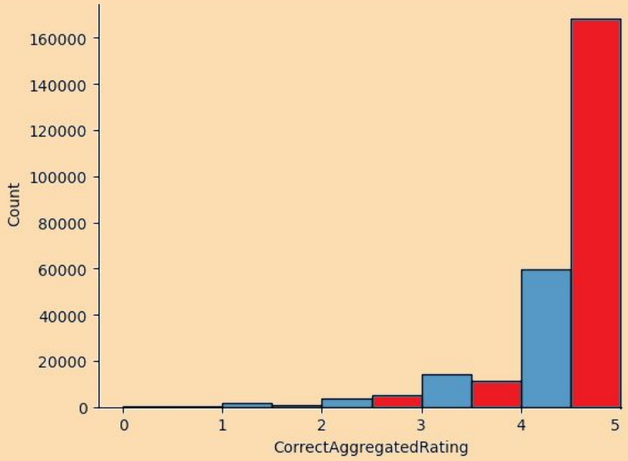
Scraping food.com

More than **520k** recipes were **scraped** from food.com.



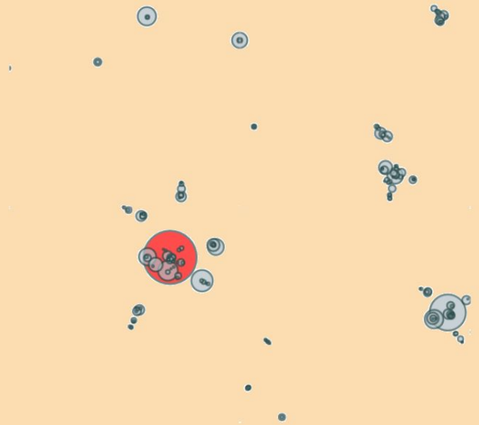
Data cleaning

Some features were removed and many more were added to **enhance** the data.



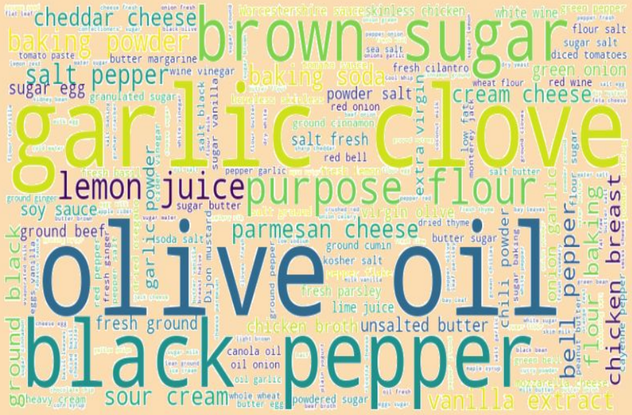
Topic Modeling

Over **300** common underlying patterns among all recipes were recognized using **large language models**.



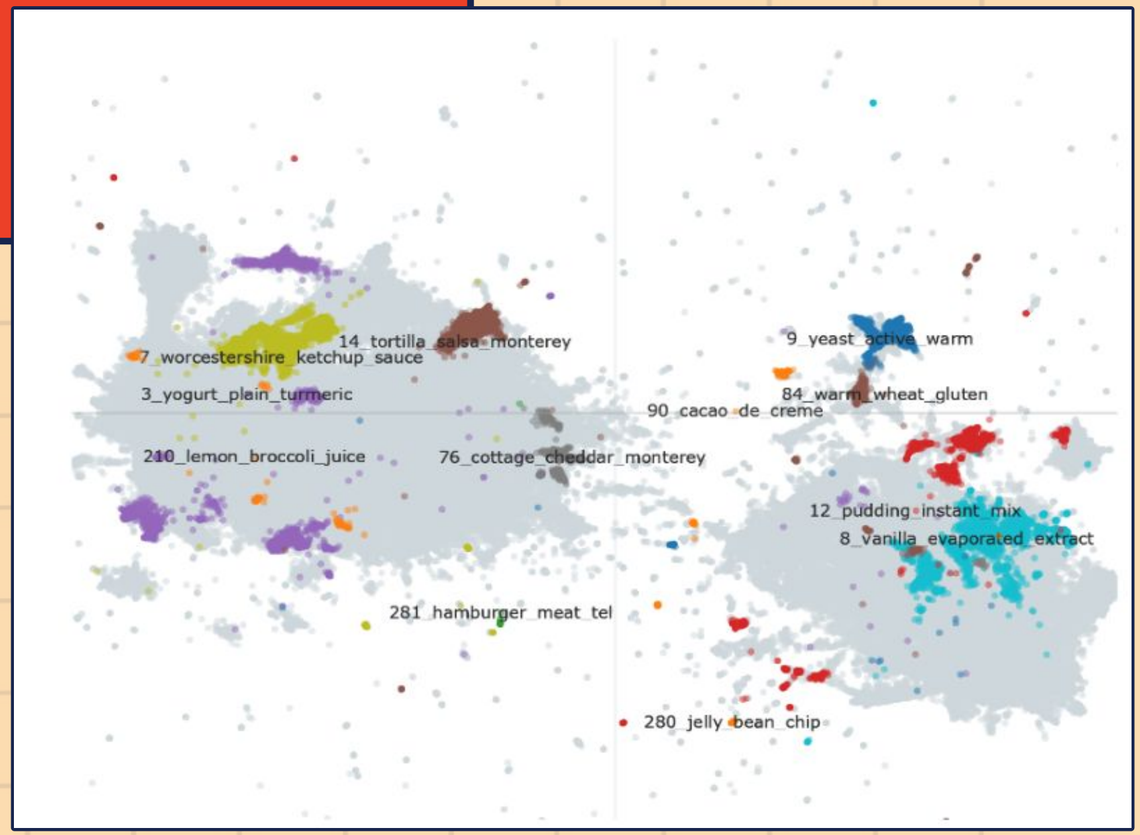
Semantic Embedding

Recipes' text data were turned into numerical values using **OpenAI**'s embedding models.



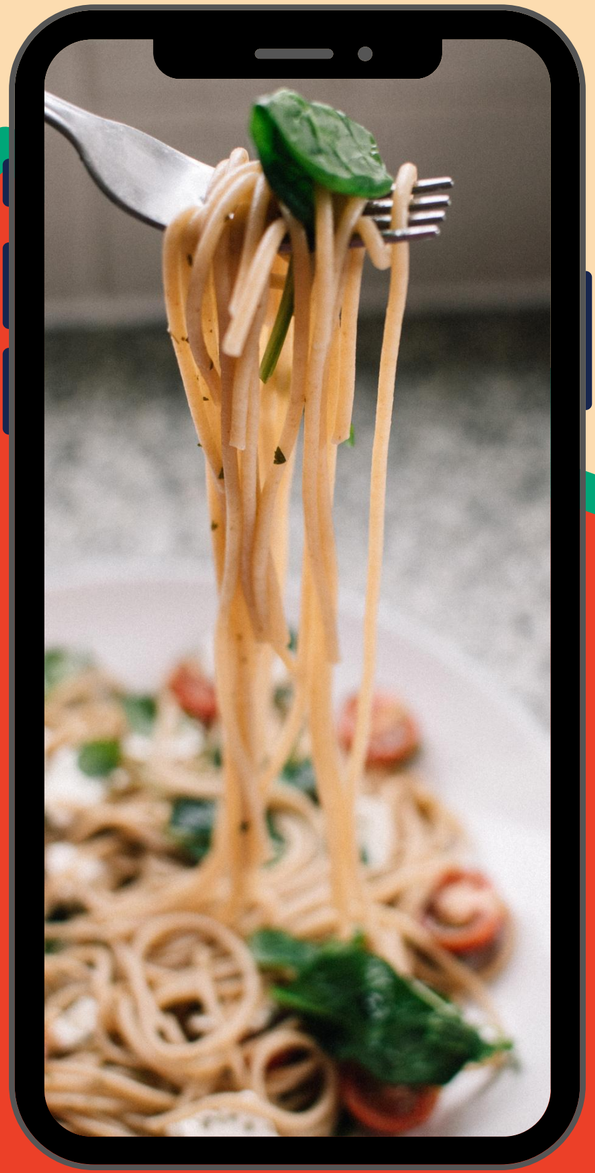
Numbers were crunched...

In the last step: the numerical representations of the the recipes text data, such as ingredients, instructions and themes, were used to find the most similar recipes to user inputs.



Let's check it out

Link to **DeepChef**: https://deepchef.streamlit.app



Extensions of DeepChef

Scaling

Due to logistic issues, the app is deployed on 10% of the data originally curated for Streamlit. We can **scale** this for much better results.

Consider Nutritions

We can extend the current recommender system to also find similar recipes based on their **nutritional factors** such as protein or fat content.

Collaborative Filtering

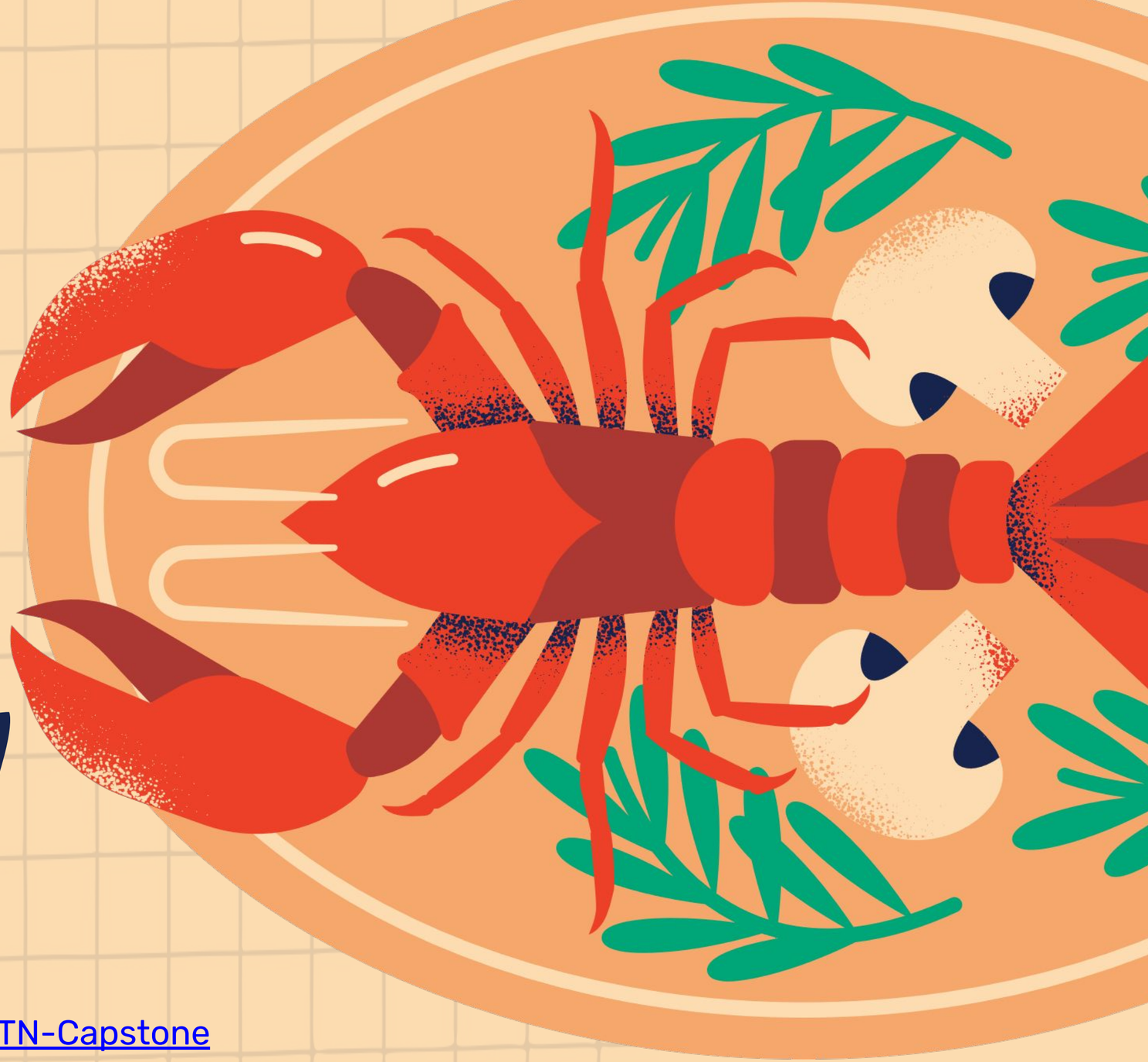
To make the recommender system more personalized, we can consider similarity between recipes across other dimensions such as:

- User reviews
- Ratings

Thank You!

Learn more about DeepChef:

https://github.com/amirkiaml/DeepChef-BSTN-Capstone



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