



# 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 providing **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

- Say you find and **enjoy** a recipe on the **web** or a **cookbook**! You can simply feed the ingredients or instructions of these recipes to **DeepChef**, and receive similar recipes.
- **Live demo** on this shortly!

## Content recommendation for cooking sites

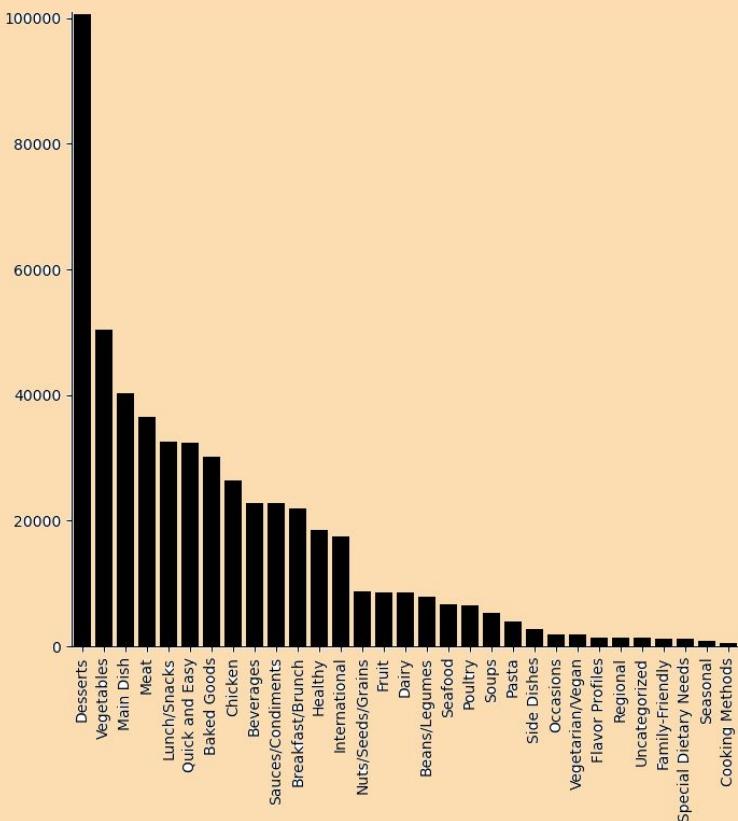
- Cooking websites could integrate and fully develop **DeepChef** to complement their more traditional recommendation systems or search engines.
- This could enhance user satisfaction and **engagement**, and ultimately drive more **views** and **revenue** for these websites.



# Project Steps

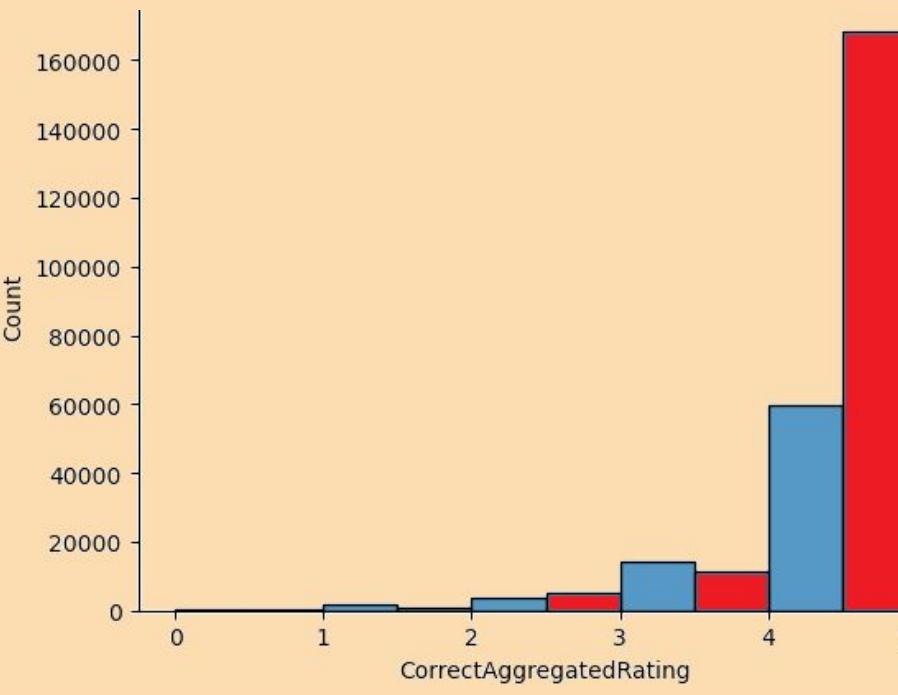
## Scraping food.com

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



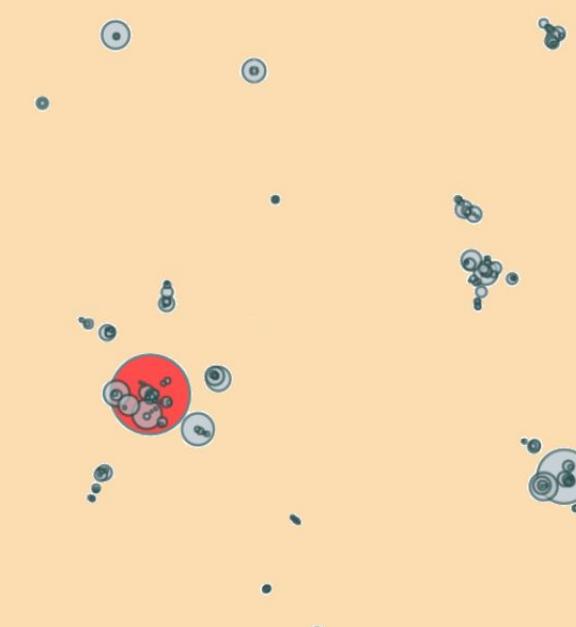
## Data cleaning

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**.

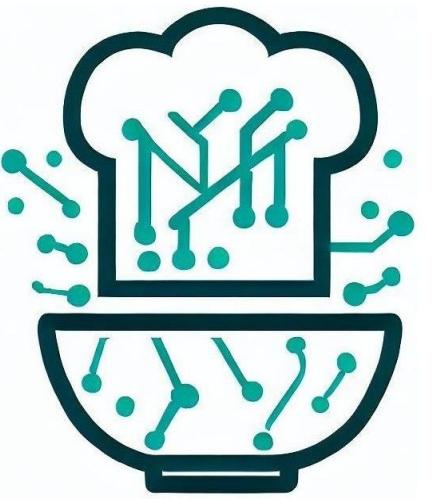


## Semantic Embedding

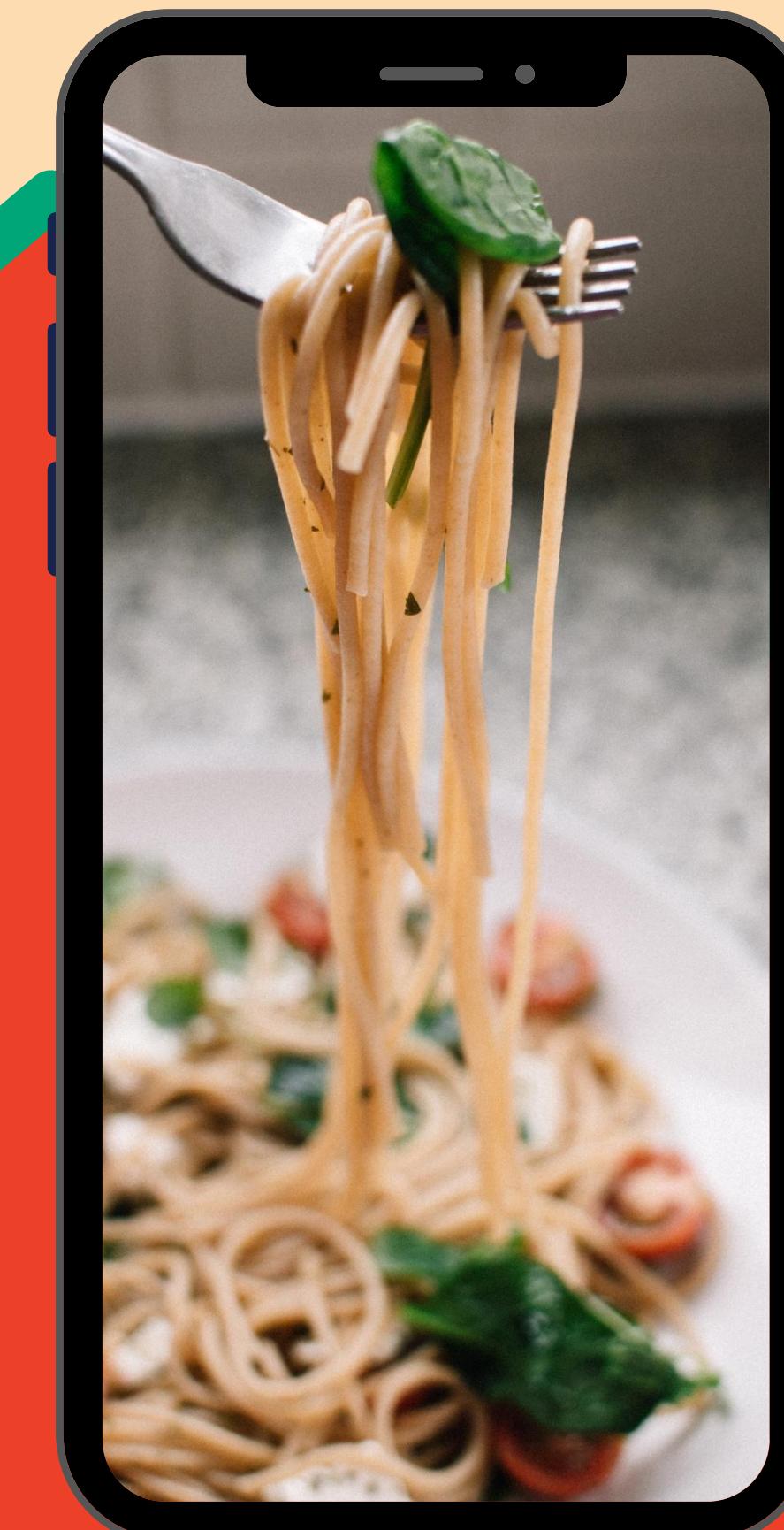
Recipes' text data were turned into numerical values using **OpenAI's** embedding models.



# 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!



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