

AI
RESTAURANT

RECIPES GENERATOR



THE MENU

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THE CHEFS

All our chefs are experts in
bringing happiness.



Raneem

Bedoor

Ahad

PROBLEM DESCRIPTION

With busy schedules and limited time, it can be challenging for individuals to plan and prepare nutritious, varied, and enjoyable meals. Additionally, many people may lack the cooking skills or knowledge necessary to create meals from scratch.

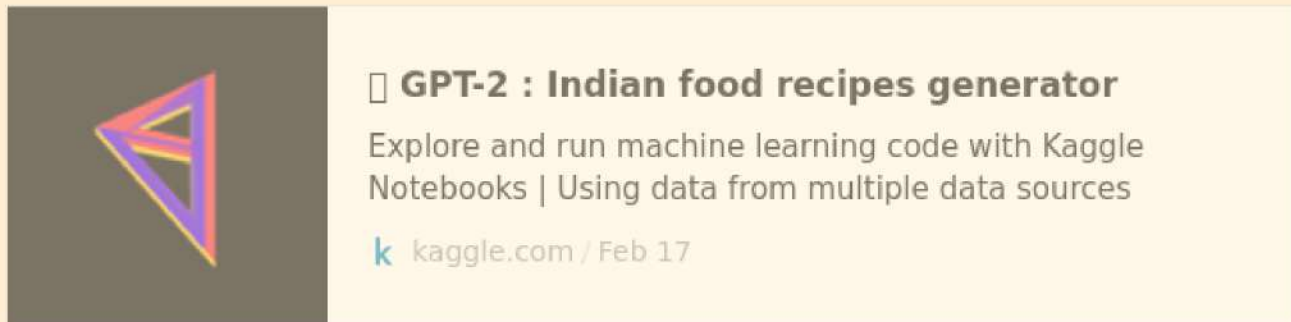
A recipe generator system can help solve these problems by providing users with a quick and easy way to access a wide range of recipes.



BASELINE APPROACH

The code uses a pre-trained GPT-2 model, specifically the 345M parameter version, which has been fine-tuned on a dataset of Indian food recipes. The fine-tuning process involves training the model on a dataset of Indian food recipes and adjusting the model's weights to improve its performance on this specific task.. The GPT-2 model then generates a sequence of text based on the prompt, which represents a new Indian food recipe.

BASELINE LINK



<https://www.kaggle.com/code/shreydan/gpt-2-indian-food-recipes-generator>



Baseline Output

```
ingredients = ['Rice,Potatoes,Tomatoes,Spinach,red bell peppers','chicken,tomatoes,aloo,jeera,curry powder']
```

Ingredients:

```
rice
potatoes
tomatoes
spinach
red bell peppers
1 tablespoon mustard
Salt,1 teaspoon cumin seeds (Jeera),1 cup water,1 tablespoon tomato puree
```

Instructions:

```
To begin making the Panchmel Kachumber Recipe, soak potatoes in water for 10 to 15 minutes.
After 10 minutes, remove from the water.
Take a small pan with a lid on, add tomatoes puree, salt, cumin seeds, tomato puree and cook on low flame until tomatoes are softened.
After tomatoes are softened, transfer them to a bowl and keep aside.Heat oil in a deep frying pan.
Once it is hot, add mustard seeds, cumin seeds and saute till they turn golden brown.
Add tomatoes and cook until the tomatoes are cooked.
After the tomatoes are cooked, add tomato puree and mix well.
Add water and cook till the water evaporates.
Add chopped onions and cook till the onions are soft.
Once done, add tomatoes puree, curry leaves and mix well.
Add salt, red pepper powder, red chilli powder, red chilli powder, red chilli powder, coriander powder, turmeric powder, red chilli powder to the tomato puree.Mix well and cook for 5 to 6 hours.
Turn off the heat and serve the Panchmel Kachumber Recipe along with steamed rice for dinner.
Serve Panchmel Kachumber Recipe along with Steamed Rice Recipe, Paneer Masala Recipe, Phulka Recipe, Phulka With Paneer, and Tomato Onion Raita for dinner.
```

Ingredients:

```
chicken
tomatoes
aloo
jeera
curry powder
```

```
1/2 teaspoon turmeric powder
1 teaspoon coriander powder,1 teaspoon red chilli powder
```

Instructions:

```
To make the Chilled Chana Masala Recipe, first prep all the ingredients and keep them ready.
Heat a kadai on medium heat, add onion, green chillies, tomatoes, curry leaves.
Cook till the onion is softened.
Add the chopped green chillies and mix well.
Add the cooked onions and cook it for 2 to 3 minutes.
Now add the chopped tomatoes and mix well.
Add the chopped tomatoes and stir well.
Now add the chopped tomatoes and mix well.
Add salt to taste and stir for 2 minutes.
Now add the cooked onions, stir and turn off the gas.
Serve Chilled Chana Masala Recipe along with a glass of Elai Vadam for breakfast.
```



Challenges

- The Dataset is limited to Indian cuisine.
- recipe generated relies on available ingredients only.
- no evaluation method
- passive experience

Proposed Modifications

- Collected datasets from all the cuisine
- Additional feature, (e.g. you can add the cuisine as a preference).
- Propose evaluation method
- interactive experience



Dataset

The dataset contains 5939 recipes, each with various attributes such as the recipe name, ingredients, cooking instructions, and cuisine type. The dataset has been preprocessed and cleaned, with any duplicates or irrelevant data removed. The recipes are sourced from various regions like Thai, Indian, Mexican, Italian, Arab...etc

1. Recipe name: The name of the recipe
2. Ingredients: A list of ingredients required for the recipe
3. Ingredients counts : Indicate the amount of each ingredient
4. Cooking instructions: The step-by-step instructions for preparing the recipe
5. Cuisine: The type of cuisine the recipe belongs to



Dataset

```
print(clean['Cuisine'].unique())
```

```
['Indian' 'North Indian Recipes' 'South Indian Recipes']
```

[+ Code](#)[+ Markdown](#)

```
print(clean['Cuisine'].unique())
```

```
['South Indian Recipes' 'Goan Recipes' 'Continental' 'Indian'
'Bengali Recipes' 'Uttar Pradesh' 'Maharashtrian Recipes'
'Italian Recipes' 'Karnataka' 'Mexican' 'European' 'North Indian Recipes'
'Fusion' 'Awadhi' 'Mangalorean' 'Tamil Nadu' 'Middle Eastern' 'Konkan'
'Parsi Recipes' 'Indo Chinese' 'Coorg' 'Rajasthani' 'Kerala Recipes'
'Thai' 'Asian' 'Sri Lankan' 'Lucknowi' 'Sindhi' 'French' 'Oriya Recipes'
'Andhra' 'Chettinad' 'Gujarati Recipes' 'Uttarakhand-North Kumaon'
'Caribbean' 'Chinese' 'Malabar' 'Himachal' 'Hyderabadi' 'Assamese'
'Mughlai' 'Kashmiri' 'Punjabi' 'Vietnamese' 'Mediterranean' 'Udupi'
'Coastal Karnataka' 'Pakistani' 'Indonesian' 'North East India Recipes'
'British' 'South Karnataka' 'Cantonese' 'North Karnataka' 'African'
'Bihari' 'World Breakfast' 'Sichuan' 'Greek' 'Malaysian' 'Malvani'
'Afghan' 'Hunan' 'Japanese' 'Appetizer' 'American' 'Side Dish' 'Nepalese'
'Kongunadu' 'Nagaland' 'Brunch' 'Dinner' 'Korean' 'Snack' 'Arab'
'Jharkhand' 'Burmese' 'Haryana' 'Dessert' 'Jewish' 'Lunch' 'Shandong']
```

[+ Code](#)[+ Markdown](#)

Interactive Experience

Cuisine Preference:

We provided users with an interactive experience in which they were able to choose their favorite cuisines from a list. We used Dropdown from the Python library ipywidgets.

Want to explore new flavors? Choose your cuisine preference!



- Cantonese
- Vietnamese
- Konkan
- Uttarakhand-North Kumaon
- Greek
- Mughlai
- Dinner
- Hyderabadi
- North Karnataka
- Mediterranean
- Arab**
- South Karnataka
- Dessert
- Nepalese
- Korean
- World Breakfast
- Kongunadu
- Appetizer
- Afghan
- Sichuan



Interactive Experience

Available Ingredients:

Another interactive feature we included was the option for users to enter any available ingredients they had so that we could generate a new recipe from them.



```
ingredients = ['Rice,Potatoes,Tomatoes,Spinach,red bell peppers','chicken,tomatoes,aloo,jeera,curry powder']
```

```
Add your ingredients for a unique recipe!  
(separate them with a comma :)
```

```
vanilla,flour,eggs,sugar
```



Our Model Output

Cuisine:
Arab

Ingredients:
flour
sugar
vanilla
cinnamon

oil - to knead

Instructions:

To make the Cinnamon Vanilla Custard, first make the dough. In another bowl, add flour and sugar and knead to make a soft ball. Keep aside.

Add the cinnamon vanilla custard dough to a mixer grinder and knead to make a soft ball.

Keep aside. Heat oil in a heavy bottomed pan. Once it is hot, add the flours and knead to make a soft dough. Keep aside.

To make a soft dough, in a mixing bowl add flour and sugar and mix well.

Keep aside. To make the dough, in a mixing bowl add flour and sugar and knead to make a soft dough. Keep aside to make a dough. To make the dough, in a mixing bowl add flours and sugar and mix well.

Keep aside. To make the custard dough, in a mixing bowl add flour and sugar and knead to make a soft dough. Keep aside to make a dough. To make the custard dough, in a mixing bowl add flour and sugar and knead to make a soft dough. Keep aside to make a dough.

To make the Custard, in a mixing bowl add flour, sugar and knead to make a soft dough. Keep aside to make a dough. To make the custard dough, in a mixing bowl add flours, sugar and knead to make a soft dough. Keep aside to make a dough.

To make the custard dough, in a mixing bowl add flours, sugar and knead to make a soft dough. Keep aside to make a dough.

To make the custard dough, in a mixing bowl add flour, sugar and knead to make a soft dough. Keep aside to make a dough.

To make the dough for the custard dough, in a mixer grinder, mix flour, sugar and knead to make a soft dough.

Keep aside to make the Custard.

To make the custard for the custard, in a mixer grinder, mix flour, sugar and knead to make a soft dough. Keep aside to make the custard.

To make the custard for the custard, in a mixer grinder, add flour, sugar and knead to make a soft dough. Keep aside to make the custard. To make the custard for the custard, in a mixer grinder, add flour, sugar and knead to make a



EVALUATION

- Human evaluation: One of the most effective ways to evaluate an AI recipe generator is to have human testers try out the generated recipes and provide feedback.
- Recipe quality metrics: There are several metrics that can be used to evaluate the quality of a recipe, such as ingredient diversity, and recipe coherence. These metrics can be used as a quantitative measure.
- User engagement metrics: Tracking user engagement metrics, such as how many people are using the recipe generator, how often they are using it, and how long they are spending on the site, can provide insights into how well the generator is performing and how useful it is to users.





CONCLUSION

In conclusion, the development of a recipe generator using AI has the potential to revolutionize the way we cook and eat. With the ability to analyze vast amounts of recipe data and identify patterns, an AI-powered recipe generator can produce unique and innovative recipes that cater to different dietary preferences and restrictions.

