TASTE MATE

A Recipe Recommendation System

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PROJECT GUIDE

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INTRODUCTION

- Overview: A machine learning-based system that recommends recipes based on available ingredients, either through image recognition, text or voice input.

- Ingredient Recognition: Uses YOLOv8 to detect multiple ingredients from images, enabling seamless and accurate recipe suggestions.

- Recipe Matching: Identifies the best recipes by comparing detected ingredients with a structured recipe dataset, ensuring relevant and personalized recommendations.

- User Convenience: Enhances the cooking experience by providing easy-to-follow instructions and dietary-specific options.

REVIEW OF LITERATURE

Previous Papers	Algorithms Used	Datasets Used	Expected Performance
Ingredient Detection Using YOLO	YOLO (You Only Look Once)	Custom Made Dataset	62%
Recipe Recommendation System Using TF-IDF	TF-IDF (Term Frequency-Inverse Document Frequency)	6000+ Indian Food Recipes Dataset by Kanishk.	75-80%
A Cooking Recipe Recommendation System	Support vector machine (SVM)	Custom Made Dataset	84%
RecipeIS—Recipe Recommendation System	ResNet-50 CNN	Scraped using Edamam API	94%

DATASETS

- Indian Food and Its Recipes Dataset (With Images): [https://www.kaggle.com/datasets/kishanpahadiya/indian-food-and-its-recipes-dataset-with-images]
  Dataset is about Indian Food Recipes
- Food 101: [https://www.kaggle.com/datasets/dansbecker/food-101]
  Pictures of 101 types of food

ALGORITHMS USED

- YOLOv8
- TF-IDF
- NLP [Cosine Similarity]
- Google Speech-to-Text API

EXISTING PROBLEMS AND SOLUTIONS

Problem

- Limited Multi-Ingredient Recognition
- No Health or Dietary Filters
- No Voice Support

Solution

- YOLO v8 for Real-Time Multi-Object Detection
- Rule-Based Filtering
- Google Speech-to-Text API

REFERENCES

1. Recipe Recommendation System Using TF-IDF [https://www.itm-conferences.org/articles/itmconf/pdf/2022/04/itmconf_icacc2022_02006.pdf]

2. RecipeIS—Recipe Recommendation System Based on Recognition of Food Ingredients [https://www.mdpi.com/2076-3417/13/13/7880]

3. A Cooking Recipe Recommendation System with Visual Recognition of Food Ingredients [https://www.researchgate.net/publication/269493931_A_Cooking_Recipe_Recommendation_System_with_Visual_Recognition_of_Food_Ingredients]

4. Ingredient Detection using YOLO

THANK YOU