

**IBM AICTE PROJECT**

# **RECIPE PREPARATION AGENT**

**Presented By**

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# OUTLINE

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# PROBLEM STATEMENT

Many individuals struggle to decide what to cook with the ingredients they have at home, leading to food waste and repetitive meals. Searching for suitable recipes manually is time-consuming and often does not account for dietary preferences or ingredient limitations.

## **Proposed Solution:**

A Recipe Preparation Agent that uses **Retrieval-Augmented Generation (RAG)** and **IBM Granite models** to provide tailored recipe suggestions based on available groceries, dietary needs, and preferences. The agent can also suggest substitutions, provide cooking tips, and generate step-by-step instructions.

# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

# IBM CLOUD SERVICES USED

- IBM Cloud Watsonx.ai Studio
- IBM Cloud Watsonx.ai Runtime
- IBM Cloud Agent Lab
- IBM Granite Foundation Model

# WOW FACTORS

Personalized recipes based on available ingredients

Dietary and allergy-aware suggestions

Ingredient substitution recommendations

Step-by-step guided cooking instructions

Helps reduce food waste and saves time

# END USERS

- Home cooks
- Busy professionals
- Health-conscious individuals
- Students and beginners in cooking

# RESULTS

## Agent preview



You: 10:33 PM

Suggest a quick breakfast recipe using eggs and spinach.



Recipe Agent 10:33 PM

Here's a simple recipe for a quick breakfast using eggs and spinach:

Ingredients:

- 2 eggs
- 1/2 cup fresh spinach leaves
- Salt and pepper to taste
- 1 tablespoon butter

Instructions:

1. Crack the eggs into a bowl and whisk them together. Add a pinch of salt and pepper to taste.
2. Heat the butter in a non-stick pan over medium heat.
3. Add the fresh spinach leaves to the pan and cook until they wilt.
4. Pour the whisked eggs over the spinach and cook until the eggs are set.
5. Serve hot and enjoy!

Type something...





## Agent preview



You: 10:51 PM

Suggest a healthy lunch recipe for two people.



Recipe Agent 10:51 PM

Here's a simple and healthy lunch recipe for two people:

Grilled Chicken and Avocado Salad

Ingredients:

- 1 ripe avocado, diced
- 1 cup mixed greens
- 1/2 cup cherry tomatoes, halved
- 1/4 cup crumbled feta cheese
- 1/4 cup chopped fresh parsley
- 2 grilled chicken breasts, sliced
- 1 tablespoon olive oil
- 1 tablespoon lemon juice
- Salt and pepper to taste

Instructions:

Type something...



# RESULTS

## Deployed AI Agent

The screenshot displays the IBM watsonx web interface. At the top, the header shows 'IBM watsonx' on the left, and 'Upgrade', a help icon, a notification bell, 'Emilyn C P's Account', 'Dallas', and a user profile icon on the right. Below the header, a breadcrumb trail reads 'Deployment spaces / Recipe Agent / Recipe Agent /'. The main content area features the 'Recipe Agent' name with 'Deployed' and 'Online' status indicators. Below this are tabs for 'API reference', 'Test', and 'Preview', with 'Preview' being the active tab. On the right side of the preview area, there is a 'New chat +' button. The chat window shows a message from 'Recipe Agent' at '09:11 PM' that says 'Welcome to Recipe Agent' and 'I am your smart kitchen buddy — share your ingredients, get custom recipes.' Below the text is a diagram of a kitchen layout with a magnifying glass icon over a green circle. At the bottom of the chat window is a 'Quick start samples' section with a text input field labeled 'Type something...' and a send button. The bottom of the screen shows a Windows taskbar with the date '04-08-2025' and time '09:12 PM'.

# CONCLUSION

The agent can suggest recipes, recommend ingredient substitutions, and provide step-by-step cooking instructions.

It saves time by automating meal planning and adapting recipes to available ingredients and dietary needs.

Recipe Preparation Agents enhance convenience, reduce food waste, and inspire creativity in everyday cooking.

# GITHUB LINK

LINK : [https://github.com/emilyncp/IBM\\_Internship](https://github.com/emilyncp/IBM_Internship)

## FUTURE SCOPE

- Integration with smart kitchen appliances
- Voice-enabled recipe assistant
- Support for multiple languages
- Nutritional value calculation
- Meal planning for a week

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Emilyn CP

Has successfully satisfied the requirements for:

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### Getting Started with Artificial Intelligence

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Issued on: Jul 15, 2025  
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/35573e27-259a-44f8-90de-3aee2d9eefbb>





This certificate is presented to

Emilyn CP

for the completion of

**Lab: Retrieval Augmented Generation with  
LangChain**

(ALM-COURSE\_3824998)

According to the Adobe Learning Manager system of record

***THANK YOU***