IBM PROJECT

NUTRITION AGENT

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OUTLINE

- Problem Statement
- Technology used
- Wow factor
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PROBLEM STATEMENT

- In today's world, individuals are becoming more health-conscious and are actively looking for personalized nutrition guidance. However, existing diet applications often provide one-size-fits-all meal plans that do not consider a user's medical conditions, allergies, fitness goals, or food preferences.
 Moreover, these tools lack the ability to adapt in real time based on user feedback or lifestyle changes.
- On the other hand, dieticians and nutrition experts face limitations in providing customized advice to a large number of people due to time and resource constraints.

Proposed Solution

To address these challenges, this project introduces an Al-powered Nutrition Agent that uses cloud services and artificial intelligence to generate personalized meal plans and health suggestions. The system also allows users to upload images of food items, which are then classified using machine learning models to provide appropriate dietary recommendations. This ensures a scalable, intelligent, and interactive way to promote healthy eating habits.



TECHNOLOGY USED

- IBM Cloud Lite Services
- IBM Watson Studio / Watsonx.ai
- Python, Pandas
- Hugging Face Transformers (optional)
- Jupyter Notebook



IBM CLOUD SERVICES USED

- IBM Cloud Watsonx Al Studio
- IBM Cloud Watsonx Al runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model



WOW FACTORS

The Al Nutrition Agent stands out due to its ability to analyze food items and offer real-time, personalized feedback to users. It combines machine learning with cloud technology to create a seamless experience where users can receive intelligent suggestions simply by uploading food images.

Unique Features

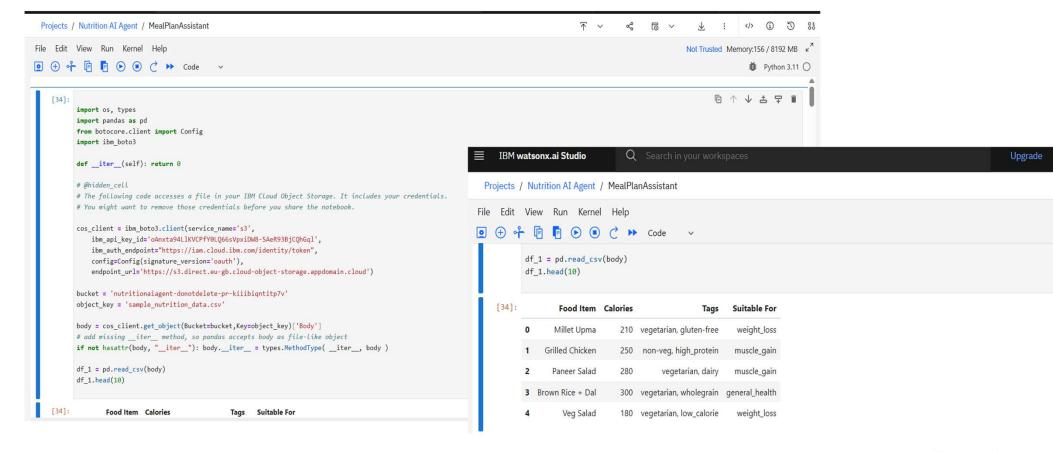
- Automatically classifies food images such as burgers, pizza, and salads using pretrained machine learning models.
- Offers context-based health recommendations tailored to the user's dietary needs.
- Uses IBM Cloud Object Storage to handle user-uploaded images efficiently.
- Developed using IBM Watson Studio and Hugging Face Transformers for advanced Al capabilities.
- Bridges the gap between static diet charts and dynamic, interactive health guidance.



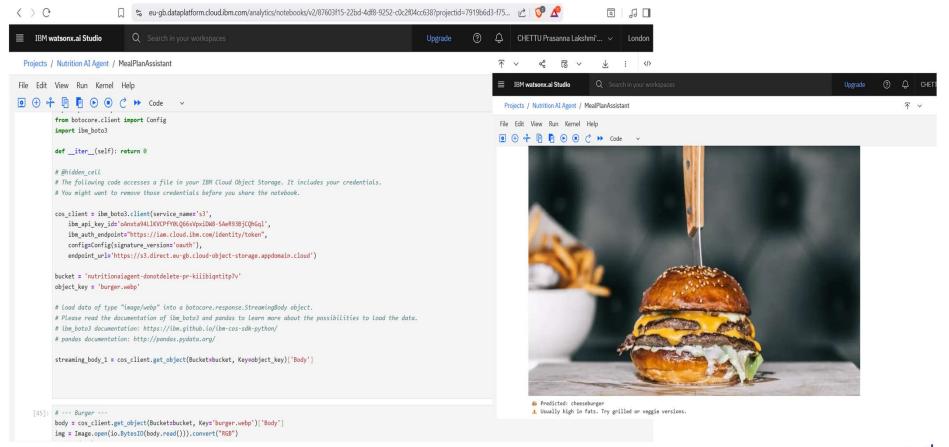
END USERS

- Health-conscious individuals
- Fitness trainers
- Dieticians and nutritionists
- Diabetic or allergy-prone patients
- Healthcare startups



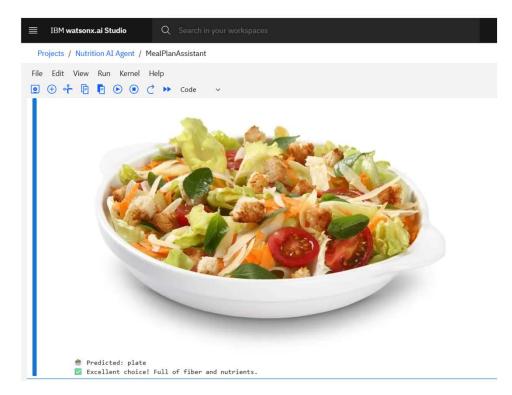








Projects / Nutrition AI Agent / MealPlanAssistant File Edit View Run Kernel Help import os, types import pandas as pd from botocore.client import Config import ibm_boto3 def __iter__(self): return 0 # @hidden cell # The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials. # You might want to remove those credentials before you share the notebook. cos_client = ibm_boto3.client(service_name='s3', ibm api key id='oAnxta94L1KVCPfY0LQ66sVpxiDW8-SAeR93BjCQhGql', ibm_auth_endpoint="https://iam.cloud.ibm.com/identity/token", config=Config(signature_version='oauth'), endpoint_url='https://s3.direct.eu-gb.cloud-object-storage.appdomain.cloud') bucket = 'nutritionaiagent-donotdelete-pr-kiiibiqntitp7v' object_key = 'salad.webp' # Load data of type "image/webp" into a botocore.response.StreamingBody object. # Please read the documentation of ibm_boto3 and pandas to learn more about the possibilities to load the data. # ibm_boto3 documentation: https://ibm.github.io/ibm-cos-sdk-python/ # pandas documentation: http://pandas.pydata.org/ streaming_body_3 = cos_client.get_object(Bucket=bucket, Key=object_key)['Body'] [48]: # --- Salad --body = cos_client.get_object(Bucket=bucket, Key='salad.webp')['Body']





Deployed Al Agent



Predicted Food: pizza, pizza pie
A Rich in cheese. Thin crust + veggies = better!



Predicted Food: plate
Suggest checking ingredients and portions.



CONCLUSION

- The Nutrition Agent AI offers personalized health support using cloud AI.
- It improves awareness, supports healthier decisions, and demonstrates how generative AI can serve real-world healthcare needs.
- The project bridges the gap between apps and real expert advice.



FUTURE SCOPE

- Add support for voice inputs
- Connect with fitness trackers (Apple Health, Fitbit)
- Suggest recipes and shopping lists
- Multilingual support
- Real-time meal scanning (mobile camera)



IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



prasanna lakshmi

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 21, 2025 Issued by: IBM SkillsBuild

Verify: https://www.credly.com/badges/45546d12-6c58-43e4-aeaf-593b051d23a7





IBM SkillsBuild

Completion Certificate



Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 21 Jul 2025 (GMT)

Learning hours: 20 mins



Git hub lik: https://github.com/chettuprasanna/Nutrition-agent-ai/tree/main



GITHUB LINK

Make sure that there should be readme file



THANK YOU

