KGiSL Institute Of Technology

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Cloud Application Development

Project name: Image Recognition Using IBM Cloud Foundry

Problem Definition:

The project involves creating an image recognition system using IBM Cloud Visual Recognition. The goal is to develop a platform where users can upload images, and the system accurately classifies and describes the image contents. This will enable users to craft engaging visual stories with the help of AI-generated captions, enhancing their connection with the audience through captivating visuals and compelling narratives.

In the previous phase we created a general model for image recognition .In this phase let us build the model to recognize specific objects such as stationery items , fruits etc... using different datasets.

After creating an IBM cloud account we continue with the following steps:

1. We need a set of labeled images of stationery items to train the model. We Organize the images into categories, such as "pens," "notebooks," "pencils," etc. Each category should have a sufficient number of images for training.

2. In the Watson Visual Recognition service dashboard, we create a new custom model. Follow the instructions to upload and label images. Train the model. This may take some time depending on the number of images and complexity.

3. You can use the IBM Watson SDK for Python to interact with the

Visual Recognition service.

```
pip install ibm-watson
```

4. We'll need to install the SDK first using **pip**:

Then, we can write Python code to recognize stationery items in an image:

```python
from  ibm_watson import VisualRecognitionV3
from ibm_watson.visual_recognition_v3 import FileWithMetadata

# Initialize the Visual Recognition service
api_key = 'YOUR_API_KEY'
endpoint = 'YOUR_ENDPOINT_URL'
version = '2022-01-01'  # Use the appropriate version
visual_recognition = VisualRecognitionV3(version=version, url=endpoint,
iam_apikey=api_key)

# Define a function to classify an image
def classify_stationery(image_path):
    with open(image_path, 'rb') as image_file:
        classes = visual_recognition.classify(
            images_file=FileWithMetadata(image_file)
        ).get_result()
    return classes

# Example usage
image_path = 'path_to_your_image.jpg'
result = classify_stationery(image_path)
print(result)
```

Code to recognize fruits:

```python
from ibm_watson import VisualRecognitionV3
from ibm_watson.visual_recognition_v3 import FileWithMetadata

# Initialize the Visual Recognition service
api_key = 'YOUR_API_KEY'
endpoint = 'YOUR_ENDPOINT_URL'
version = '2022-01-01'  # Use the appropriate version
visual_recognition = VisualRecognitionV3(version=version, url=endpoint,
iam_apikey=api_key)
```

```python
# Define a function to classify an image
def classify_fruits(image_path):
    with open(image_path, 'rb') as image_file:
        classes = visual_recognition.classify(
            images_file=FileWithMetadata(image_file)
        ).get_result()
    return classes

# Example usage
image_path = 'path_to_your_image.jpg'
result = classify_fruits(image_path)
print(result)
```

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