

SPRINT 4

TRAINING MODEL ON IBM CLOUD

This screenshot shows the IBM Cloud dashboard for a user named Madhuvanathi V. The interface is dark-themed. At the top, there's a navigation bar with the IBM Cloud logo, a search bar, and links to Catalog, Manage, and the user's account. The main section is titled "Dashboard" and includes a "Create resource" button. Below this, a "For you" section displays several recommended actions: "Build" (Explore IBM Cloud), "Build a web app with Watson Speech to Text" (15 min), "Get Started with Watson Studio" (2 hr), "Build and deploy Node.js apps" (15 min), "Get started with Watson Discovery" (2 hr), and "IBM Cloud Migration Services" (5 min). Each action has a "Getting started" or "Recommended" button. At the bottom, there are sections for "News", "Recent support cases", "Planned maintenance", and "IBM Cloud status". The system tray at the bottom shows a temperature of 79°F and the date 11/16/2022.

This screenshot shows the IBM Cloud dashboard for a user named CHARULATHA B. The interface is light-themed. The layout is similar to the first screenshot, with a navigation bar at the top and a "Dashboard" section. The "For you" section recommends actions such as "Build", "Build a web app with Watson Speech to Text" (15 min), "Get Started with Watson Studio" (2 hr), "Access to a service within resource groups" (5 min), "Build a virtual machine" (7 min), and "IBM Cloud Migration Services" (5 min). Each action has a "Getting started" or "Recommended" button. The bottom section includes "News", "Recent support cases", "Planned maintenance", and "IBM Cloud status". The system tray at the bottom shows a temperature of 26°C and the date 16-11-2022.

IBM SkillsBuild Software Downl... x Your IBM Cloud verification code x IBM Cloud x +

cloud.ibm.com

IBM Cloud Search resources and products...

Dashboard Edit dashboard Upgrade account Create resource +

For you Select an option

Build
Explore IBM Cloud with this selection of easy starter tutorials and services.

Build a web app with Watson Speech to Text
Deploy a conversational interface compatible with any application, device, or channel.
Getting started 15 min

Get Started with Watson Studio
Get started with using AI and Cloud Object Storage in 15 minutes.
Popular 2 hr

Build a Virtual Private Cloud (VPC)
Upgrade to a paid account to create your own protected space in the IBM Cloud.
Getting started 7 min

IBM Watson Knowledge Catalog
Help your data citizens easily find, prepare, understand and use the data they need through an enterprise data catalog & governance platform.
Recommended 2 min

IBM Cloud Migration Services
Use IBM Cloud Migration Services to migrate workloads to a hybrid cloud with reduced risk and cost.
Recommended 5 min

News View all
IBM Cloud Data Shield Deprecation
IBM Watson Orchestrate Is Integrating with ThisWay Global
SLSA Support in IBM Cloud Continuous Delivery
WebSphere Application Server Support Restatement

Recent support cases View all

Planned maintenance View all

IBM Cloud status View all

Type here to search 26°C Cloudy 22:13 16-11-2022

Inbox (57) - 3006ramanathan@ x Welcome to Project Delighted x IBM x IBM Cloud x +

cloud.ibm.com

IBM Cloud Search resources and products...

Dashboard Edit dashboard Upgrade account Create resource +

For you Select an option

Build
Explore IBM Cloud with this selection of easy starter tutorials and services.

Build a web app with Watson Speech to Text
Deploy a conversational interface compatible with any application, device, or channel.
Getting started 15 min

Get Started with Watson Studio
Get started with using AI and Cloud Object Storage in 15 minutes.
Popular 2 hr

Build a virtual machine
Lift and shift your VMware workloads to the IBM Cloud.
Getting started 7 min

Build and deploy Node.js apps
Go from zero to production in minutes with your Node.js applications. Integrate with Watson and other services, scale your microservices.
Recommended 15 min

IBM Log Analysis with LogDNA
Troubleshoot logs in real-time to diagnose issues and identify problems. Leverage hundreds of integrations and built-in IBM Cloud logging.
Recommended 5 min

News View all
IBM Cloud Satellite New Pricing
IBM Cloud Data Shield Deprecation

Recent support cases View all

Planned maintenance View all

IBM Cloud status View all

Waiting for 684d0d49.akstation... IBM Cloud.html canceled Show all

Type here to search 24°C Partly sunny 07:35 17-11-2022

IBM SkillsBuild S... IBM - My IBM - U... Service Details... nutrition_analys... ERROR: Could not... command to up... python 3.x - Inc... tensorflow pip... +

dataplatform.cloud.ibm.com/analytics/notebooks/v2/2863805e-c3b5-4e30-a640-7a318ca1a647/projectid=0dac7bf5-4f76-4d31-8d10-851f930cc853&context=...

IBM Watson Studio Search in your workspaces Buy Madhuvanthi V's Account Dallas MV

Projects / IBM-NAALAIYA-THIRAN / nutrition_analyser_3

File Edit View Insert Cell Kernel Help Not Trusted | Python 3.9

```
# ibm_auth_endpoint="https://iam.cloud.ibm.com/oidc/token",
# config=Config(signature_version='oauth'),
# endpoint_url="https://s3.private.us.cloud-object-storage.appdomain.cloud")

# bucket = 'ibmnaalaiyathiran-donotdelete-pr-ivs4sqlzavqzi'
# object_key = 'data.zip'

# streaming_body_1 = cos_client.get_object(bucket=bucket, Key=object_key)['Body']

## Your data file was loaded into a boto3.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/

In [*]: from io import BytesIO
import zipfile
unzip = zipfile.ZipFile(BytesIO(streaming_body_2.read()), 'r')
file_paths = unzip.namelist()
for path in file_paths:
    unzip.extract(path)

In [21]: pwd
Out[21]: '/home/wsuser/work'
```

Loading Data and performing Data Augmentation

In [51]: x_train=train.datagen.flow_from_directory(r'/content/drive/MyDrive/ibm-nutrition-analyser/TRAIN_SET',target_size=(64,64),batch_size=32,

79°F Mostly clear 11:22 PM 11/16/2022

IBH... My... Ser... X... nui... htt... htt... htt... IBH... IBH... ERU... cor... Bui... ten... Sp... Crc... Wa... Au... (11... nut... My... +

dataplatform.cloud.ibm.com/ml-runtime/spaces/2d51de66-1ee0-49e4-8307-8b3585028713/assets?context=cpdaas

IBM Watson Studio Search in your workspaces Buy Madhuvanthi V's Account Dallas MV

Deployments /

ibm-naalaiya-thiran

Overview **Assets** Deployments Jobs Manage

Find assets Import assets

2 assets

All assets 2

Asset types

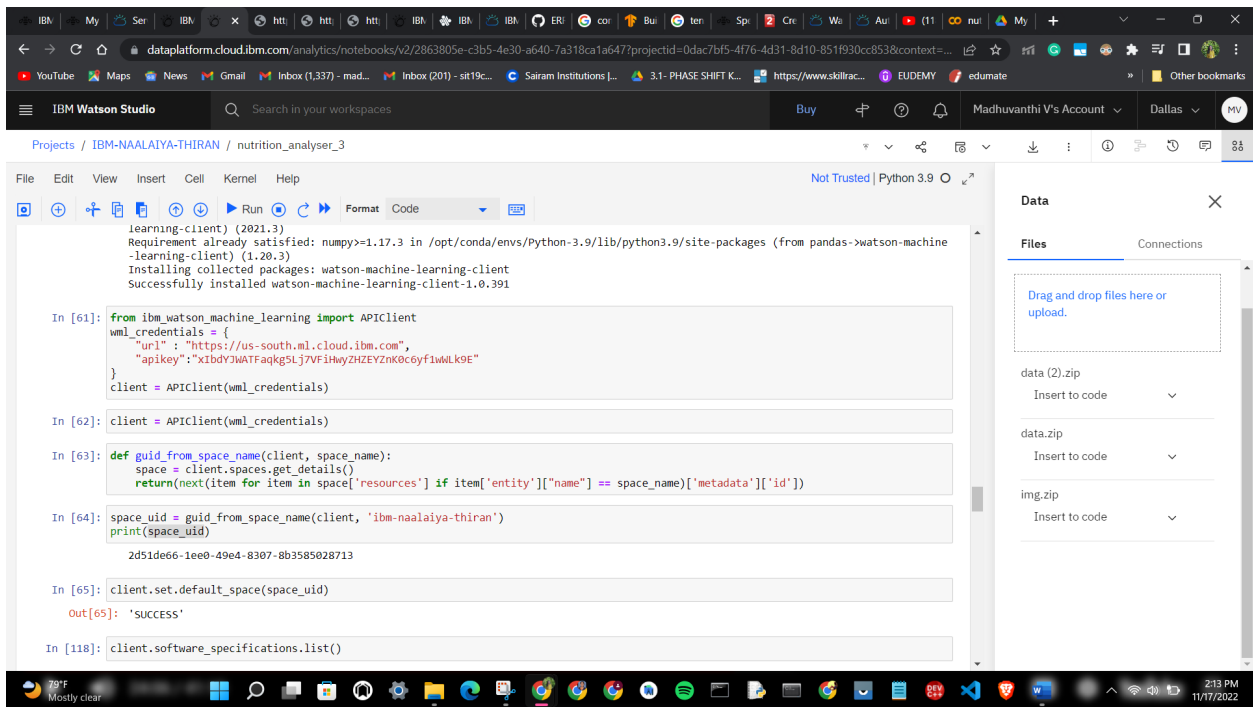
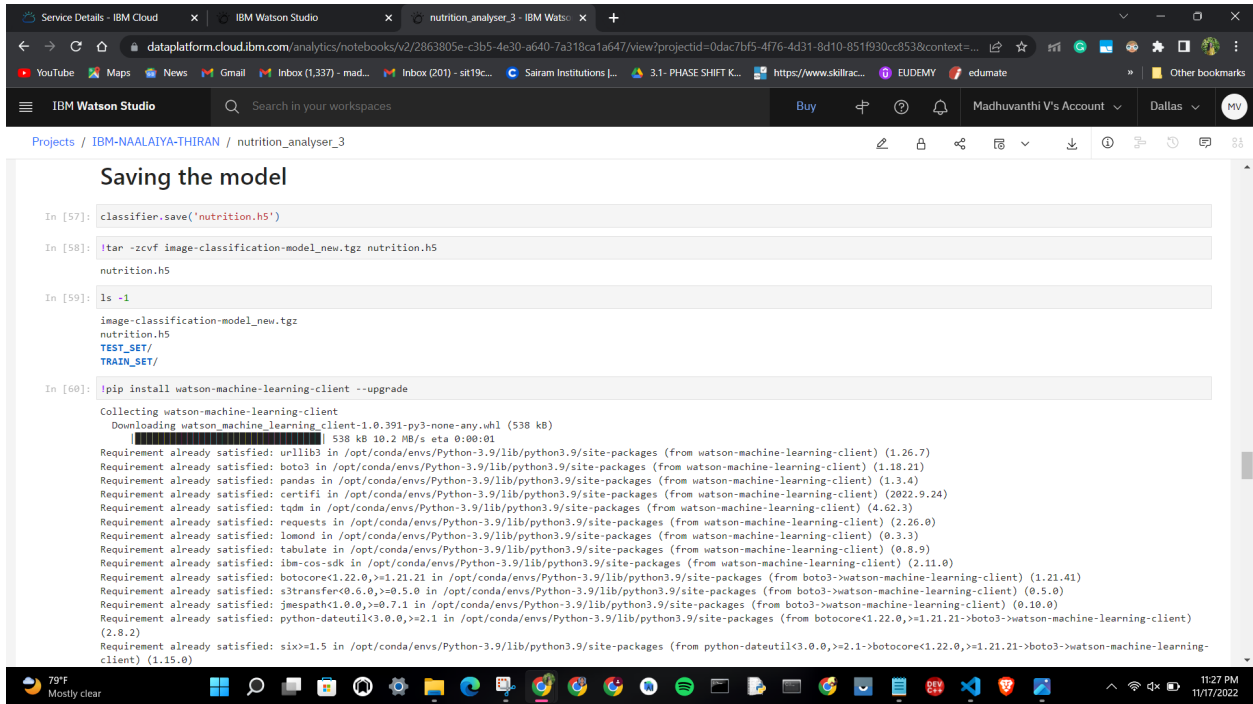
Models 2

Name	Last modified
CNN Model	17 minutes ago Service
CNN Model	17 minutes ago Service

Items per page: 20 1-2 of 2 items 1 of 1 pages

https://dataplatform.cloud.ibm.com/ml-runtime/spaces/2d51de66-1ee0-49e4-8307-8b3585028713/assets?context=cpdaas#

79°F Mostly clear 2:17 PM 11/17/2022



IBM Watson Studio

Projects / IBM-NAALAIYA-THIRAN / nutrition_analyser_3

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.9

Saving the model

```
In [70]: classifier.save('nutrition.h5')

In [71]: !tar -czvf image-classification-model_new.tgz nutrition.h5
         nutrition.h5

In [72]: !ls -l
         data/
         image-classification-model_new.tgz
         nutrition.h5
         TEST_SET/
         TRAIN_SET/

In [73]: !pip install watson-machine-learning-client --upgrade
         Collecting watson-machine-learning-client
         Downloading watson_machine_learning_client-1.0.391-py3-none-any.whl (538 kB)
         538.9/538.9 kB 45.6 MB/s eta 0:00:00
         Requirement already satisfied: requests in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (2.26.0)
         Requirement already satisfied: tqdm in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (4.62.3)
         Requirement already satisfied: certifi in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (2022.9.24)
         Requirement already satisfied: urllib3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (1.26.7)
         Requirement already satisfied: boto3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (1.18.21)
         Requirement already satisfied: pandas in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (1.3.4)
         Requirement already satisfied: tabulate in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (0.8.9)
         Requirement already satisfied: lomond in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from watson-machine-learning-client) (0.3.3)
```

IBM Watson Studio

Projects / IBM-NAALAIYA-THIRAN / nutrition_analyser_3

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.9

```
In [76]: from ibm_watson_machine_learning import APIClient
         wml_credentials = {
         "url": "https://us-south.ml.cloud.ibm.com",
         "apikey": "x1bdY3WATFaKg5Lj7VFjHwyZHEY2nK6C6yfiwLk9E"
         }
         client = APIClient(wml_credentials)

In [77]: client = APIClient(wml_credentials)

In [78]: def guid_from_space_name(client, space_name):
         space = client.spaces.get_details()
         return(next(item for item in space['resources'] if item['entity']['name'] == space_name)['metadata']['id'])

In [80]: space_uid = guid_from_space_name(client, 'ibm-naalaiya-thiran')
         print(space_uid)
         2d51de66-1ee0-49e4-8307-8b3585028713

In [81]: client.set_default_space(space_uid)
         Out[81]: 'success'
```

IBM SkillsBuild S... x IBM - My IBM - U... x Service Details - x nutrition_analys... x ERROR: Could n... x command to up... x tensorflow pip - x zip the folder - G x +

dataplatform.cloud.ibm.com/analyt.../2/2863805e-c3b5-4e30-a640-7a318ca1a647?projectId=0dac7bf5-4f76-4d31-8d10-851f930cc853&context=...

IBM Watson Studio

Projects / IBM-NAALAIYA-THIRAN / nutrition_analyser_3

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.9

image Data Augmentation

```
In [14]: train_datagen = ImageDataGenerator(rescale=1./255, shear_range=0.2, zoom_range=0.2, horizontal_flip=True)
test_datagen=ImageDataGenerator(rescale=1./255)

In [15]:
import os, types
import pandas as pd
from boto3.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='dwGEBSQ91UhwYUSfb7BBVY4RV-XBixxfjdndafPH5qrH',
                              ibm_auth_endpoint='https://iam.cloud.ibm.com/oidc/token',
                              config=Config(signature_version='oauth'),
                              endpoint_url='https://s3.private.us.cloud-object-storage.appdomain.cloud')

bucket = 'ibmnaalaiyathiran-donotdelete-pr-ivs4sqt1zavqzi'
object_key = 'data.zip'

streaming_body_1 = cos_client.get_object(Bucket=bucket, Key=object_key)['Body']

# Your data file was loaded into a boto3.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/
```

Data

Files Connections

Upload one file at a time. All file types accepted. 5 GB max file size.

Drag and drop files here or upload.

data.zip

Insert to code

79°F Mostly clear 11:15 PM 11/16/2022