

DemandEst – AI Powered Food Demand Forecasting

TEAM ID:PNT2022TMID23576

Train the ML Model On IBM

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Projects / Food Demand Forecaster / Data_preprocessing_and_Model...  
In [44]: !pip install ibm_watson_machine_learning  
Requirement already satisfied: ibm_watson_machine_learning in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (1.0.257)  
Requirement already satisfied: ibm-cos-sdk==2.11.* in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (2.11.0)  
Requirement already satisfied: urllib3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (1.26.7)  
Requirement already satisfied: pandas<1.5.0,>=0.24.2 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (1.3.4)  
Requirement already satisfied: packaging in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (21.3)  
Requirement already satisfied: importlib-metadata in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (4.8.2)  
Requirement already satisfied: lxml in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (0.3.3)  
Requirement already satisfied: tabulate in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (0.8.9)  
Requirement already satisfied: certifi in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (2022.9.24)  
Requirement already satisfied: requests in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm_watson_machine_learning) (2.26.0)  
Requirement already satisfied: ibm-cos-sdk-s3transfer==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (2.11.0)  
Requirement already satisfied: ibm-cos-sdk-core==2.11.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (2.11.0)  
Requirement already satisfied: jmespath<1.0.0,>=0.7.1 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk==2.11.*->ibm_watson_machine_learning) (0.10.0)  
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from ibm-cos-sdk-core==2.11.0->ibm_watson_machine_learning) (2.8.2)  
Requirement already satisfied: pytz>=2017.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas<1.5.0,>=0.24.2->ibm_watson_machine_learning) (2021.3)  
Requirement already satisfied: numpy>=1.17.3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from pandas<1.5.0,>=0.24.2->ibm_watson_machine_learning) (1.20.3)  
Requirement already satisfied: six>=1.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from python-dateutil<3.0.0,>=2.1->ibm-cos-sdk-core==2.11.0->ibm_watson_machine_learning) (1.15.0)  
Requirement already satisfied: idna<4,>=2.5 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->ibm_watson_machine_learning) (3.3)  
Requirement already satisfied: charset-normalizer==2.0.0 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from requests->ibm_watson_machine_learning) (2.0.4)  
Requirement already satisfied: urllib3 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from importlib-metadata->ibm_watson_machine_learning) (1.20.3)  
Requirement already satisfied: pyparsing<3.0.5,>=2.0.2 in /opt/conda/envs/Python-3.9/lib/python3.9/site-packages (from packaging->ibm_watson_machine_learning) (3.0.4)  
  
In [45]: from ibm_watson_machine_learning import APIClient  
  
In [ ]:  
  
In [44]: wml_credentials={  
    "url": "https://us-south.ml.cloud.ibm.com",  
    "apikey": "WGBB007t9eq9QhvsjbioWRDVB1a0A788umY7E4S"  
}  
client = APIClient(wml_credentials)
```

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In [45]: def guid_from_space_name(client, space_name):  
    space_client = spaces.get_details(space_name)  
    return next(item for item in space_client['resources'] if item['entity']['name'] == space_name['metadata']['id'])  
  
In [46]: space_uid = guid_from_space_name(client, 'models')  
    print("Space UID = " + space_uid)  
    Space UID =376330cd-fcc1-4a81-81eb-ad1e9433d83b  
  
In [47]: client.set_default_space(space_uid)  
  
Out[47]: 'SUCCESS'  
  
In [49]: client.software_specifications.list()  
  
-----  
NAME ASSET_ID TYPE  
default_py3.6 0062b8c9-8b7d-44a0-a9b9-46c416adcbd9 base  
kernel-spark3.2-scala2.12 020d69ce-7ac1-5e68-ac1a-31189867356a base  
pytorch-onnx_1.3-py3.7-edt 069ea134-3346-5748-b513-49120e15d288 base  
scikit-learn_0.20-py3.6 09c5a1d0-9c1e-4473-a344-eb7b665ff687 base  
spark-mllib_3.0-scala_2.12 09f4c0f0-90a7-5899-b9ed-1ef348aefdee base  
pytorch-onnx_rt22.1-py3.9 0b848dd4-e6815599-ba41-b5f6fccc6471 base  
ai-function_0.1-py3.6 0cd0b0fe-5376-474d-92dd-da3b09aa9bda base  
shiny_r3.6 0e6e79df-875e-4f24-8ae9-62dce21a8306 base  
tensorflow_2.4-py3.7-horovod 1092590a-307d-563d-9b62-4ab7d64b3f22 base  
pytorch_1.1-py3.6 10ac12d6-6b30-4cdd-8392-3e922c096a92 base  
tensorflow_1.15-py3.6-dl 111e41b3-de2d-5422-a4d6-bf776828c4b7 base  
autoai-kb_rt22.2-py3.10 125b6d9a-5b1f-5e8d-972a-b251688ccf40 base  
runtime-22.1-py3.9 12b3a17-24d8-5082-900f-0ab31fbfd3cb base  
scikit-learn_0.22-py3.6 154010fa-5b3b-4ac1-82af-4d5ee5abb8c5 base  
default_r3.6 1b70aec3-ab34-4b87-8aa0-a4a3c8296a36 base  
pytorch-onnx_1.3-py3.6 1bc6029a-cc97-56da-b8e0-39c3880dbbe7 base  
kernel-spark3.3-r3.6 1c9e5454-f216-59dd-a20e-47a4accd9588 base  
pytorch-onnx_rt22.1-py3.9-edt 1d362186-7ad5-5b59-8b6c-9d08080de37f base  
tensorflow_2.1-py3.6 1eb25b84-d6ed-5d6e-b6a5-3fbdf1665666 base  
spark-mllib_3.2 20047f72-0a98-58c7-9ff5-a77b012eb8f5 base
```

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In [48]: software_spec_uid = client.software_specifications.get_uid_by_name("default_py3.7")
software_spec_uid

Out[48]: 'e4429883-c883-42b6-87a8-f419d64088cd'

In [49]: MODEL_NAME='Data_preprocessing_and_Model_building'
DEPLOYMENT_NAME='models'
DEMO_MODEL=GB

In [51]: software_spec_uid=client.software_specifications.get_id_by_name("runtime-22.1-py3.9")

In [53]: model_props={
client.repository.ModelMetaNames.NAME:MODEL_NAME,
client.repository.ModelMetaNames.TYPE:'scikit-learn_1.0',
client.repository.ModelMetaNames.SOFTWARE_SPEC_UID:software_spec_uid
}

In [55]: models_details=client.repository.store_model(
model=DEMO_MODEL,
meta_props=model_props,
training_data=X,
training_target=y
)

In [56]: models_details

Out[56]: {'entity': {'hybrid_pipeline_software_specs': [],
'label_column': 'l1',
'schemas': {'input': [{'fields': [{'name': 'f0', 'type': 'float'},
{'name': 'f1', 'type': 'float'},
{'name': 'f2', 'type': 'float'},
{'name': 'f3', 'type': 'float'},
{'name': 'f4', 'type': 'float'},
{'name': 'f5', 'type': 'float'}]
}]}}
```

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In [56]: models_details

Out[56]: {'entity': {'hybrid_pipeline_software_specs': [],
'label_column': 'l1',
'schemas': {'input': [{'fields': [{'name': 'f0', 'type': 'float'},
{'name': 'f1', 'type': 'float'},
{'name': 'f2', 'type': 'float'},
{'name': 'f3', 'type': 'float'},
{'name': 'f4', 'type': 'float'},
{'name': 'f5', 'type': 'float'},
{'name': 'f6', 'type': 'float'}]
}],
'id': '1',
'type': 'struct'}],
'output': [],
'software_spec': {'id': '12b83a17-24d8-5082-900f-0ab31fbfd3cb',
'name': 'runtime-22.1-py3.9',
'type': 'scikit-learn_1.0'},
'metadata': {'created_at': '2022-11-24T16:26:36.329Z',
'id': '3ac64586-180b-4b05-82df-fc22b6b0f96a',
'modified_at': '2022-11-24T16:26:39.130Z',
'name': 'Data_preprocessing_and_Model_building',
'owner': 'IBMId-661004458C',
'resource_key': '9619e809-d467-4910-b503-8785dbd31a74',
'space_id': '376338cd-fcc1-4a81-81eb-ad1e9433d83b',
'system': {'warnings': []}}

In [ ]:
```

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