Gradient Boosting Decision Tree

```python
import urllib3, requests, json


wml_credentials={
"url": wml_service_credentials_url,
"username": wml_service_credentials_username,
"password": wml_service_credentials_password
}

headers = urllib3.util.make_headers(basic_auth='{username}:
{password}'.format(username=wml_credentials['username'],
password=wml_credentials['password']))
url = '{}/v3/identity/token'.format(wml_credentials['url'])
response = requests.get(url, headers=headers)
mltoken = json.loads(response.text).get('token')

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"fields": ["CCN", "SHIFT", "METHOD", "OFFENSE", "WARD", "ANC",
"DISTRICT", "PSA", "NEIGHBORHOOD_CLUSTER", "CENSUS_TRACT",
"VOTING_PRECINCT", "OBJECT_ID", "REPORT_DAT", "TRUMP_VOTE"], "values":
[array_of_values_to_be_scored, another_array_of_values_to_be_scored]}
```

# ⓘ Model Builder Details

| | |
|---|---|
| Input data set | 2008_2017DC_CRIMEGc.csv_shaped.csv_shaped.csv |
| Problem type | binary |
| Training / validation data split | Train: 60%, Test: 20%, Holdout: 20% |
| Transformers | Auto Data Preparation |
| Selected estimator | GBTClassifier |
| Other trained estimators | |

Close

## Deployment

| | |
|---|---|
| Name | db |
| Type | Web Service |
| Deployment ID | 8b6d7817-d672-41b3-ae63-c4c3e7de7179 |
| Status | DEPLOY_SUCCESS |
| Asset type | model |
| Asset name | Db |
| Machine learning service | pm-20-ti |
| Created | 02 Aug 2018 04:04pm |
| Last modified | 02 Aug 2018 04:25pm |

## Model

| | |
|---|---|
| Name | Db |
| ID | d3a51792-abdb-45b8-9792-0959e5e6ae6b |
| Version ID | b7077376-cabb-450d-967b-c415b8e097da |

B ⬆

Overview   Evaluation   Deployments   Lineage

### Last Evaluation Result

| | |
|---|---|
| Version | aad54e8e-5c7a-41c4-937d-6918a46fefe4 |
| Phase | setup |
| AreaUnderPR | 0.851 |
| AreaUnderROC | 0.92 |

Random Forest Model

```
import urllib3, requests, json

# retrieve your wml_service_credentials_username, wml_service_credentials_password, and
wml_service_credentials_url from the
# Service credentials associated with your IBM Cloud Watson Machine Learning Service
instance

wml_credentials={
"url": wml_service_credentials_url,
"username": wml_service_credentials_username,
"password": wml_service_credentials_password
}

headers = urllib3.util.make_headers(basic_auth='{username}:
{password}'.format(username=wml_credentials['username'],
password=wml_credentials['password']))
url = '{}/v3/identity/token'.format(wml_credentials['url'])
response = requests.get(url, headers=headers)
mltoken = json.loads(response.text).get('token')

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"fields": ["CCN", "SHIFT", "METHOD", "OFFENSE", "WARD", "ANC",
"DISTRICT", "PSA", "NEIGHBORHOOD_CLUSTER", "CENSUS_TRACT",
"VOTING_PRECINCT", "OBJECT_ID", "REPORT_DAT", "TRUMP_VOTE"], "values":
[array_of_values_to_be_scored, another_array_of_values_to_be_scored]}

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/v3/wml_instances/
5c6ec45d-1c4b-40bb-a1b7-e9bdb220e645/deployments/7845125a-e929-496a-a177-
e6098f330982/online', json=payload_scoring, headers=header)
print("Scoring response")
print(json.loads(response_scoring.text))
```

# ℹ️ Model Builder Details

| | |
|---|---|
| Input data set | 2008_2017DC_CRIMEGc.csv_shaped.csv_shaped.csv |
| Problem type | binary |
| Training / validation data split | Train: 60%, Test: 20%, Holdout: 20% |
| Transformers | Auto Data Preparation |
| Selected estimator | RandomForestClassifier |
| Other trained estimators | |

## Deployment

| | |
|---|---|
| Name | C |
| Type | Web Service |
| Deployment ID | 7845125a-e929-496a-a177-e6098f330982 |
| Status | DEPLOY_SUCCESS |
| Asset type | model |
| Asset name | C |
| Machine learning service | pm-20-ti |
| Created | 02 Aug 2018 04:10pm |
| Last modified | 02 Aug 2018 04:39pm |

## Model

| | |
|---|---|
| Name | C |
| ID | 78adc103-732c-4e9b-b59b-9f42599bc917 |
| Version ID | 987bb161-d9a5-4592-8b5f-5be0aa65baa4 |

### Last Evaluation Result

| | |
|---|---|
| Version | 987bb161-d9a5-4592-8b5f-5be0aa65baa4 |
| Phase | setup |
| AreaUnderPR | 0.856 |
| AreaUnderROC | 0.925 |

Logistic Regression

```python
import urllib3, requests, json

# retrieve your wml_service_credentials_username, wml_service_credentials_password, and wml_service_credentials_url from the
# Service credentials associated with your IBM Cloud Watson Machine Learning Service instance

wml_credentials={
"url": wml_service_credentials_url,
"username": wml_service_credentials_username,
"password": wml_service_credentials_password
}

headers = urllib3.util.make_headers(basic_auth='{username}:{password}'.format(username=wml_credentials['username'], password=wml_credentials['password']))
url = '{}/v3/identity/token'.format(wml_credentials['url'])
response = requests.get(url, headers=headers)
mltoken = json.loads(response.text).get('token')

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"fields": [array_of_feature_columns], "values": [array_of_values_to_be_scored, another_array_of_values_to_be_scored]}
```

## ℹ️ Model Builder Details

| Input data set | 2008_2017DC_CRIMEGc.csv_shaped.csv_shaped.csv |
|---|---|
| Problem type | binary |
| Training / validation data split | Train: 60%, Test: 20%, Holdout: 20% |
| Transformers | Auto Data Preparation |
| Selected estimator | LogisticRegression |
| Other trained estimators | |

Close

## Deployment

| Name | LogRegDeploy |
|---|---|
| Type | Web Service |
| Deployment ID | 2de20f7b-7c0e-46b6-be94-819c4809b632 |
| Status | DEPLOY_SUCCESS |
| Asset type | model |
| Asset name | B |
| Machine learning service | pm-20-ti |
| Created | 02 Aug 2018 04:42pm |
| Last modified | 02 Aug 2018 04:42pm |

## Model

| Name | B |
|---|---|
| ID | 07c09cea-4c2f-45e8-bc75-6f072d3e32ed |
| Version ID | aad54e8e-5c7a-41c4-937d-6918a469efe4 |

## Last Evaluation Result

| Version | aad54e8e-5c7a-41c4-937d-6918a469efe4 |
|---|---|
| Phase | setup |
| AreaUnderPR | 0.851 |
| AreaUnderROC | 0.92 |

Decision Tree Classifier

```
import urllib3, requests, json

# retrieve your wml_service_credentials_username, wml_service_credentials_password, and
wml_service_credentials_url from the
# Service credentials associated with your IBM Cloud Watson Machine Learning Service
instance

wml_credentials={
"url": wml_service_credentials_url,
"username": wml_service_credentials_username,
"password": wml_service_credentials_password
}

headers = urllib3.util.make_headers(basic_auth='{username}:
{password}'.format(username=wml_credentials['username'],
password=wml_credentials['password']))
url = '{}/v3/identity/token'.format(wml_credentials['url'])
response = requests.get(url, headers=headers)
mltoken = json.loads(response.text).get('token')

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {"fields": ["CCN", "SHIFT", "METHOD", "OFFENSE", "WARD", "ANC",
"DISTRICT", "PSA", "NEIGHBORHOOD_CLUSTER", "CENSUS_TRACT",
"VOTING_PRECINCT", "OBJECT_ID", "REPORT_DAT", "TRUMP_VOTE"], "values":
[array_of_values_to_be_scored, another_array_of_values_to_be_scored]}

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/v3/wml_instances/
5c6ec45d-1c4b-40bb-a1b7-e9bdb220e645/deployments/
4450ca8a-4de4-484b-8049-27d6f5522a29/online', json=payload_scoring, headers=header)
print("Scoring response")
print(json.loads(response_scoring.text))
```

# ⓘ Model Builder Details

| | |
|---|---|
| Input data set | 2008_2017DC_CRIMEGc.csv_shaped.csv_shaped.csv |
| Problem type | binary |
| Training / validation data split | Train: 60%, Test: 20%, Holdout: 20% |
| Transformers | Auto Data Preparation |
| Selected estimator | DecisionTreeClassifier |
| Other trained estimators | |

Close

## Last Evaluation Result

| | |
|---|---|
| Version | bc5df523-305d-43a9-a36f-16bd731d0271 |
| Phase | setup |
| AreaUnderPR | 0.831 |
| AreaUnderROC | 0.877 |

## Deployment

| | |
|---|---|
| Name | DecisionTreeDeploy |
| Type | Web Service |
| Deployment ID | 4450ca8a-4de4-484b-8049-27d6f5522a29 |
| Status | DEPLOY_SUCCESS |
| Asset type | model |
| Asset name | Decision Tree Classifier |
| Machine learning service | pm-20-ti |
| Created | 02 Aug 2018 04:57pm |
| Last modified | 02 Aug 2018 05:00pm |