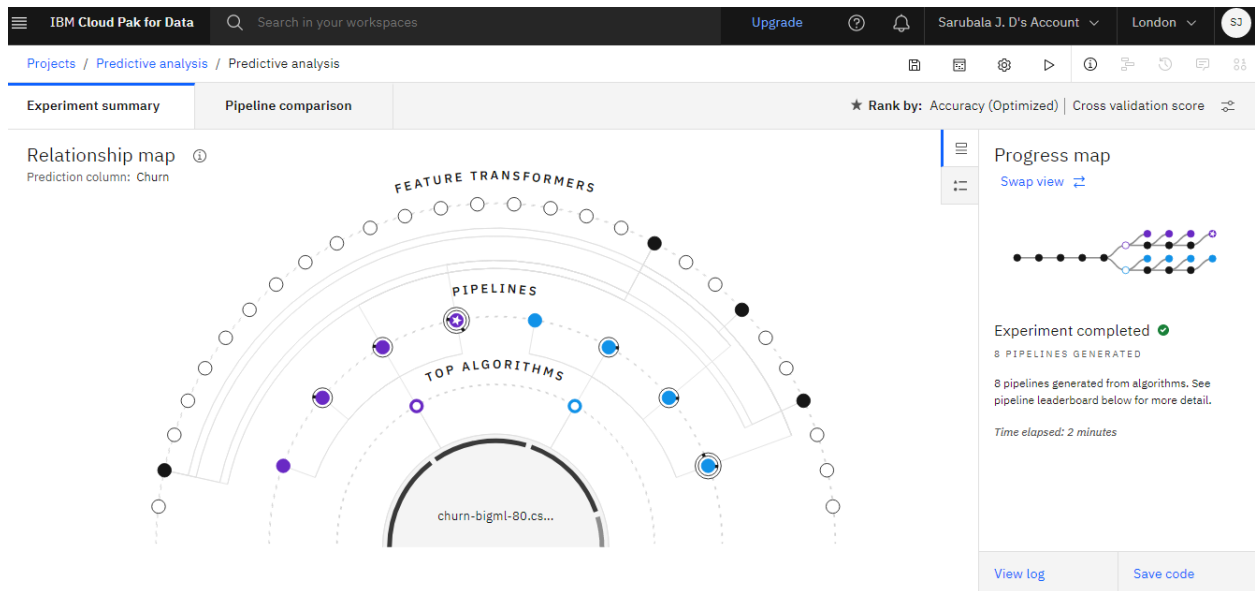


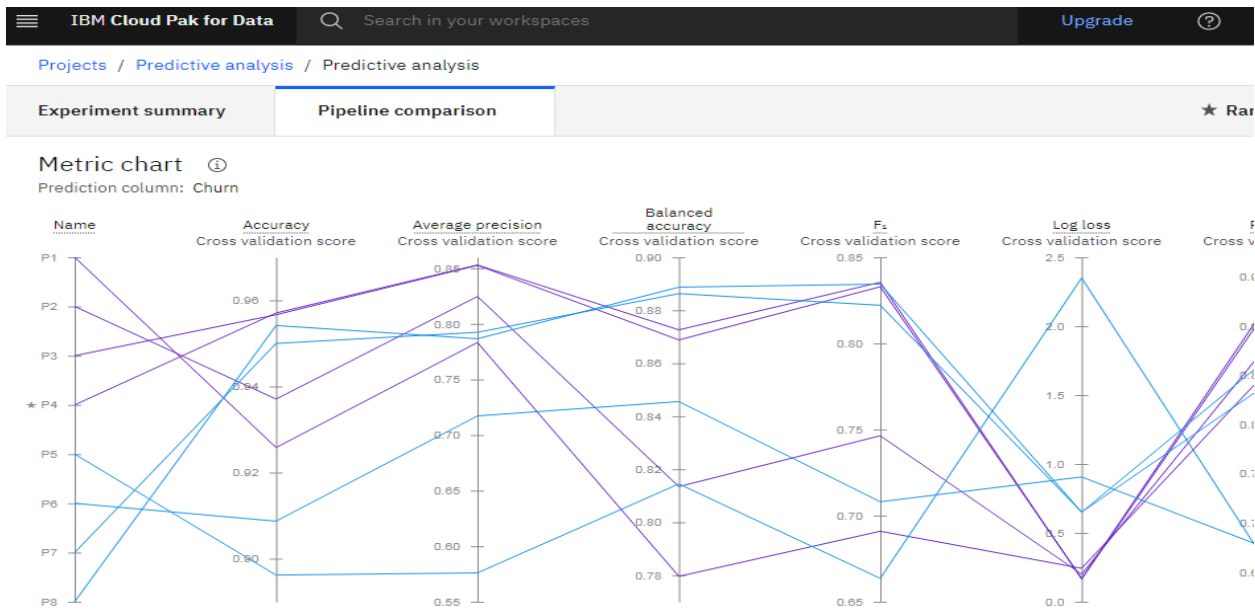
PREDICTIVE ANALYSIS

PHASE 4: MODEL DEPLOYMENT

STEP 1: Experiment Summary:



STEP 2: Pipeline comparison:



STEP 3: Pipeline Leaderboard:

IBM Cloud Pak for Data

Search in your workspaces

Upgrade

?

Sarubala J. D's Account

London

S3


















Projects / Predictive analysis / Predictive analysis

Experiment summary

Pipeline comparison

★ Rank by: Accuracy (Optimized) | Cross validation score

Pipeline leaderboard

	Rank	↑	Name	Algorithm	Accuracy (Optimized) Cross Validation	Enhancements	Build time
★	1		Pipeline 4	 Snap Random Forest Classifier	0.957	 HPO-1  FE  HPO-2	00:00:48
	2		Pipeline 3	 Snap Random Forest Classifier	0.957	 HPO-1  FE	00:00:36
	3		Pipeline 8	 Decision Tree Classifier	0.954	 HPO-1  FE  HPO-2	00:00:25
	4		Pipeline 7	 Decision Tree Classifier	0.950	 HPO-1  FE	00:00:20
	5		Pipeline 2	 Snap Random Forest Classifier	0.937	 HPO-1	00:00:05
	6		Pipeline 1	 Snap Random Forest Classifier	0.926	None	00:00:01

STEP 4: Model Creation:

The screenshot shows the 'Save as' dialog in the IBM Cloud Pak for Data interface. The 'Select asset type' section on the left has two options: 'Model' (selected with a checkmark) and 'Notebook'. The 'Define details' section on the right contains the following fields:

- Name:** Predictive analysis - P8 Decision Tree Classifier - Model
- Description (optional):** Model description
- Tags:** Add tags to make assets easier to find.

At the bottom right of the dialog are 'Cancel' and 'Create' buttons.

STEP 5: Deployment Promoting:

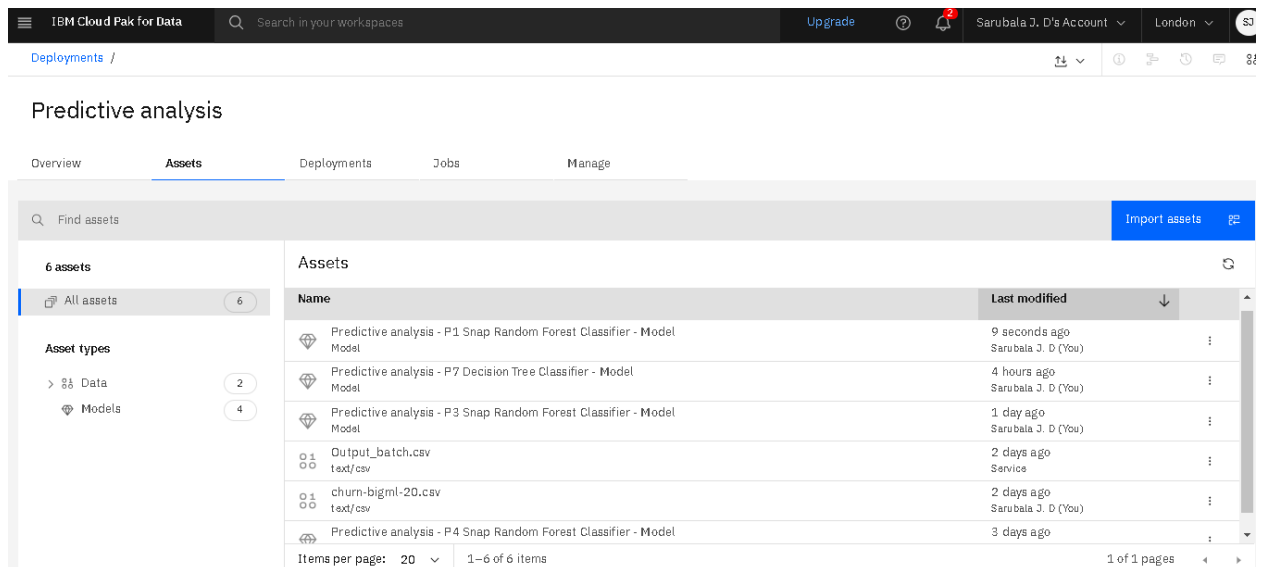
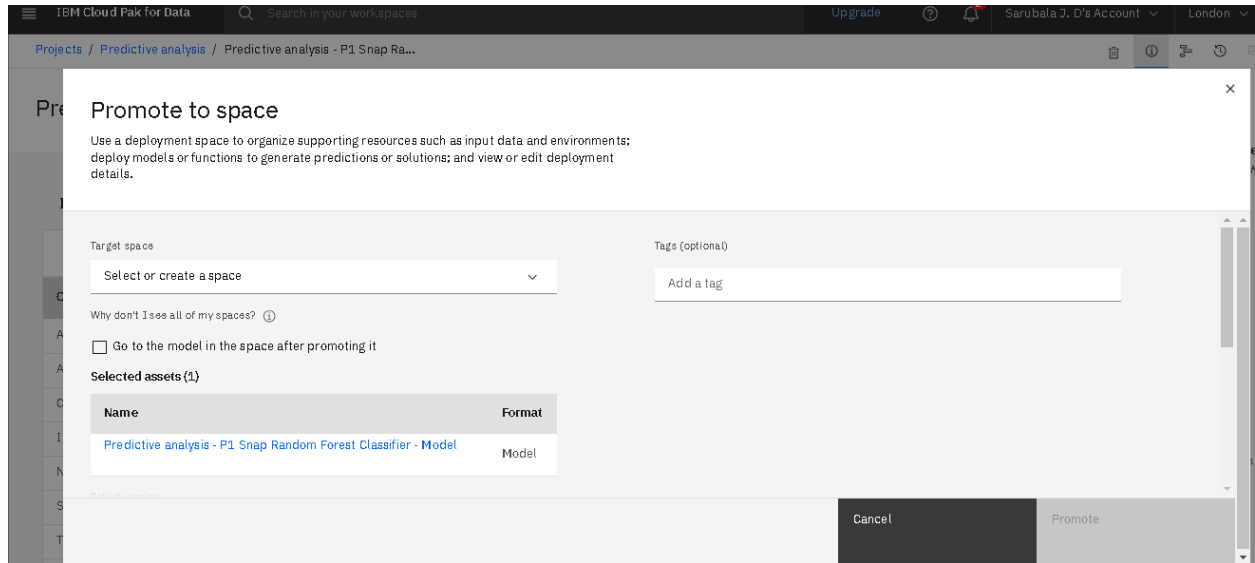
The screenshot shows the 'Predictive analysis - P8 Decision Tree Classifier - Model' page. At the top right, there is a blue button labeled 'Promote to deployment space'. Below this, the 'Input Schema' section displays a table with the following data:

Column	Type
Account length	"integer"
Area code	"integer"
Customer service calls	"integer"
International plan	"other"
Number vml messages	"integer"
State	"other"
Total day calls	"integer"

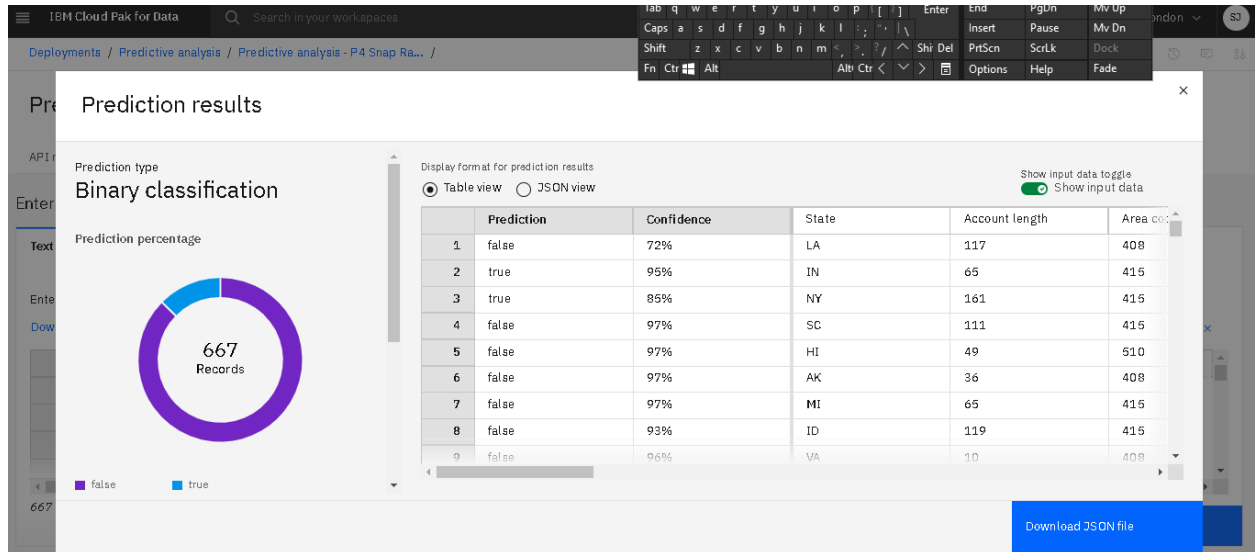
On the right side of the page, a sidebar provides details about the model:

- Predictive analysis - P8 Decision Tree Classifier - Model**
- Last modified at Oct 26, 2023, 3:50 PM*
- Description:** No description provided.
- Created:** Oct 26, 2023, 3:50 PM
- Type:** wml-hybrid_0.1
- Model ID:** b70371ff-4180-409b-a71d-2...
- Software specification:** hybrid_0.1
- Hybrid pipeline software specifications:** autoai-kb_rt22.2-py3.10
- Tags:** Add tags to make assets easier to

STEP 5: Deployment:



STEP 6: Testing:



STEP 7: API reference:

The screenshot shows the 'API reference' page for the 'Predictive analysis' service. It includes a 'Private endpoint' section with a URL and a 'Bearer token' field. Below this, there is a 'Code snippets' section with tabs for 'cURL', 'Java', 'JavaScript', 'Python', and 'Scala'. The 'cURL' tab is selected, showing a sample curl command for making a POST request to the API.

Private endpoint

https://private.eu-gb.ml.cloud.ibm.com/ml/v4/deployments/94b6cba4-5f51-4d06-a0b2-9e7f6f6cf6af/predictions?version=2021-05-01

Bearer token

IAM

Code snippets

cURL

```
# NOTE: you must set $API_KEY below using information retrieved from your IBM Cloud account.

curl --insecure -X POST --header "Content-Type: application/x-www-form-urlencoded" --header "Accept: \
application/json" --data-urlencode "grant_type=urn:ibm:params:oauth:grant-type:apikey" \
--data-urlencode "apikey=$API_KEY" "https://iam.cloud.ibm.com/identity/token"

# the above CURL request will return an auth token that you will use as $IAM_TOKEN in the scoring request below
# TODO: manually define and pass values to be scored below
curl -X POST --header "Content-Type: application/json" --header "Accept: application/json" --header "Authorization: \
Bearer $IAM_TOKEN" -d '{"input_data": [{"fields": [{"ARRAY_OF_INPUT_FIELDS}], "values": [{"ARRAY_OF_VALUES_TO_BE_SCORED", \
$ANOTHER_ARRAY_OF_VALUES_TO_BE_SCORED}]}]}' "https://private.eu-gb.ml.cloud.ibm.com/ml/v4/deployments/94b6cba4-5f51-4d06-a0b2-9e7f6f6cf6af/predictions"
```

STEP 8: WEB Application

Home Github

CUSTOMER CHURN PREDICTION

Senior Citizen <input type="text" value="No"/>	Payment Method <input type="text" value="Mailed check"/>	Paperless Billing <input type="text" value="Yes"/>	Gender <input type="text" value="Male"/>	PREDICT
Partner <input type="text" value="Yes"/>	Dependents <input type="text" value="Yes"/>	Phone Service <input type="text" value="Yes"/>	Multiple Lines <input type="text" value="Yes"/>	
Internet Service <input type="text" value="DSL"/>	Online Security <input type="text" value="Yes"/>	Online Backup <input type="text" value="Yes"/>	Device Protection <input type="text" value="Yes"/>	
Tech Support <input type="text" value="Yes"/>	Streaming TV <input type="text" value="Yes"/>	Streaming Movies <input type="text" value="Yes"/>	Contract <input type="text" value="One year"/>	
Monthly Charges <input type="text" value="100"/>	Total Charges <input type="text" value="100"/>	Tenure <input type="text" value="1"/>		

CUSTOMER CHURN PREDICTION

Senior Citizen <input type="text" value="No"/>	Payment Method <input type="text" value="Mailed check"/>	Paperless Billing <input type="text" value="Yes"/>	Gender <input type="text" value="Male"/>	PREDICT
Partner <input type="text" value="Yes"/>	Dependents <input type="text" value="Yes"/>	Phone Service <input type="text" value="Yes"/>	Multiple Lines <input type="text" value="Yes"/>	
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Tech Support <input type="text" value="Yes"/>	Streaming TV <input type="text" value="Yes"/>	Streaming Movies <input type="text" value="Yes"/>	Contract <input type="text" value="One year"/>	
Monthly Charges <input type="text" value="100"/>	Total Charges <input type="text" value="100"/>	Tenure <input type="text" value="1"/>		

This customer is likely to be churned!! Confidence: [96,56268]