

# AUTO\_AI MODEL TO DETECT CHRONIC KIDNEY DISEASE

## CLASSIFIER DETAILS

The screenshot displays the IBM Watson Studio interface for a project named 'CKD\_AutoAI'. The main view is titled 'CKD\_autoid - P8 LGBM Classifier'. A table lists the input features and their types:

Column	Type
al	"integer"
bp	"integer"
bu	"double"
dm	"integer"
hemo	"double"
htn	"integer"
pcv	"integer"
rc	"double"

On the right, a sidebar provides details about the classifier:

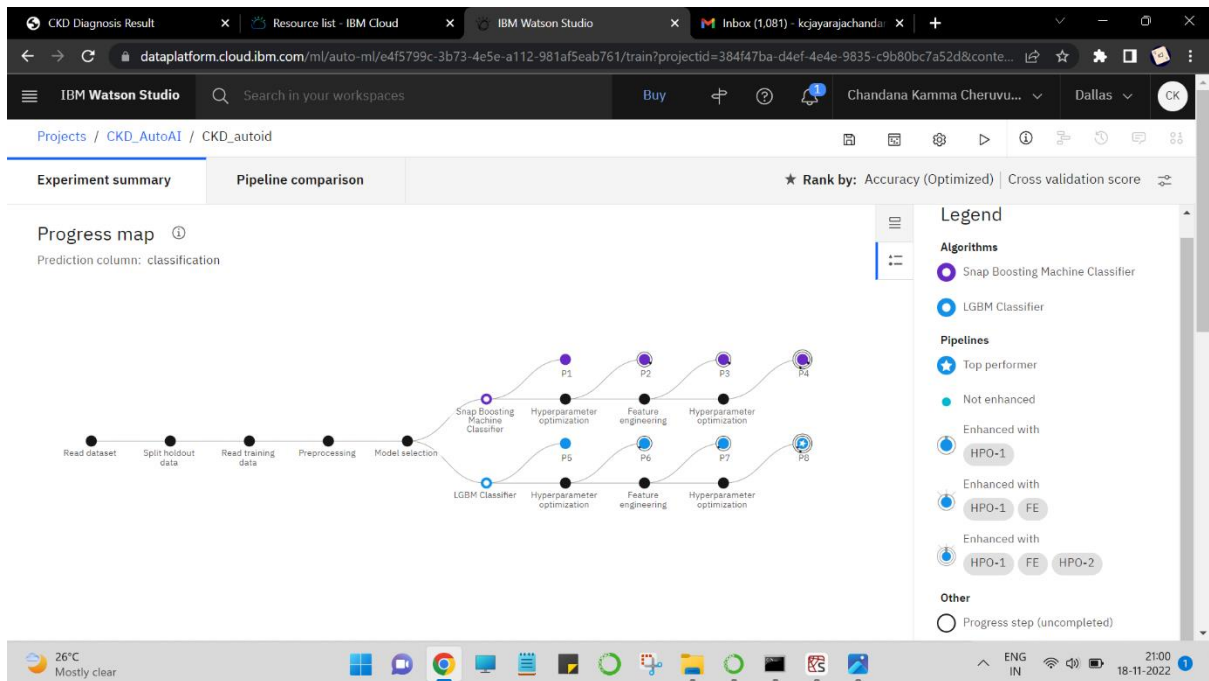
- CKD\_autoid - P8 LGBM Classifier**
- Last modified at Nov 18, 2022, 8:58 PM
- Description: No description provided.
- Created: Nov 18, 2022, 6:11 PM
- Type: wml-hybrid\_0.1
- Model ID: f5c4e2e2-9d58-4639-85f3-b...
- Software specification: hybrid\_0.1
- Hybrid pipeline software specifications: autoai-kb\_rt22.2-py3.10

## EXPERIMENT SUMMARY

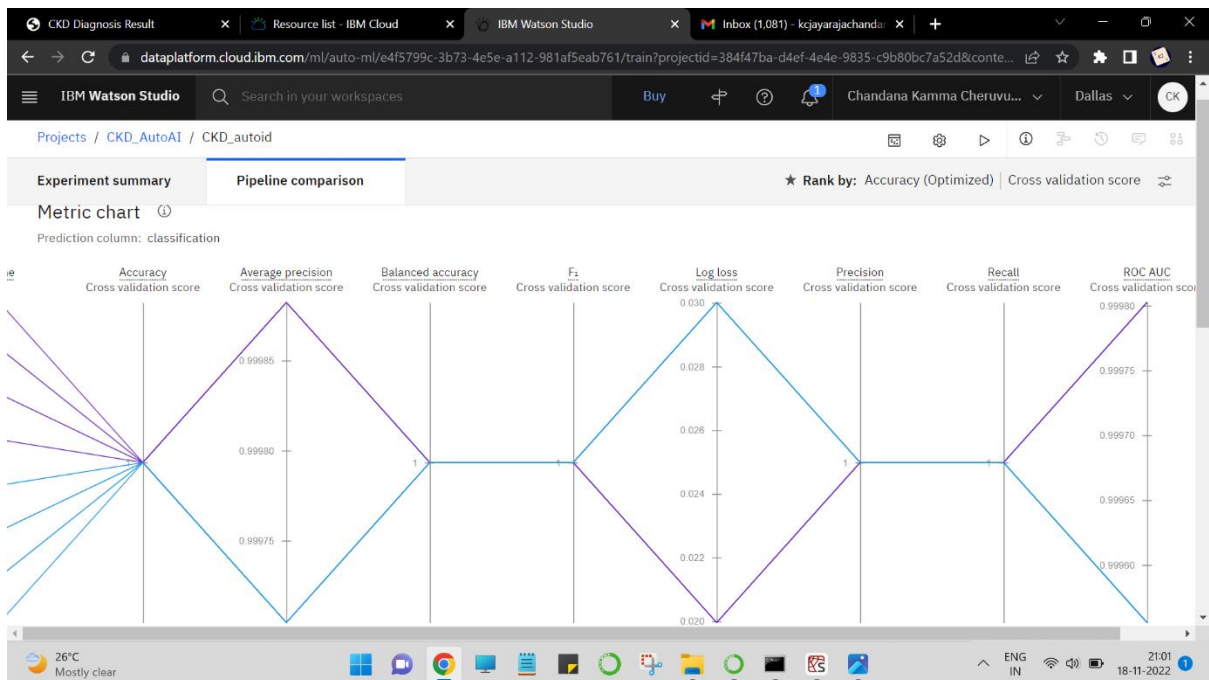
The screenshot displays the 'Experiment summary' view in IBM Watson Studio. The top navigation bar shows the project name 'CKD\_AutoAI' and the experiment name 'CKD\_autoid'. The main content area is titled 'Progress map' and shows a flowchart of the experiment process:

```
graph LR; A[Read dataset] --> B[Split holdout data]; B --> C[Read training data]; C --> D[Preprocessing]; D --> E[Model selection]; E --> F[Snap Boosting Machine Classifier]; E --> G[LGBM Classifier]; F --> H[Hyperparameter optimization]; G --> I[Hyperparameter optimization]; H --> J[Feature engineering]; I --> K[Hyperparameter optimization]; J --> L[Hyperparameter optimization]; K --> M[Hyperparameter optimization]; L --> N[Hyperparameter optimization]; M --> O[Hyperparameter optimization]; N --> P[Hyperparameter optimization]; O --> Q[Hyperparameter optimization]; P --> R[Hyperparameter optimization]; Q --> S[Hyperparameter optimization]; R --> T[Hyperparameter optimization]; S --> U[Hyperparameter optimization]; T --> V[Hyperparameter optimization]; U --> W[Hyperparameter optimization]; V --> X[Hyperparameter optimization]; W --> Y[Hyperparameter optimization]; X --> Z[Hyperparameter optimization]; Y --> AA[Hyperparameter optimization]; Z --> AB[Hyperparameter optimization]; AA --> AC[Hyperparameter optimization]; AB --> AD[Hyperparameter optimization]; AC --> AE[Hyperparameter optimization]; AD --> AF[Hyperparameter optimization]; AE --> AG[Hyperparameter optimization]; AF --> AH[Hyperparameter optimization]; AG --> AI[Hyperparameter optimization]; AH --> AJ[Hyperparameter optimization]; AI --> AK[Hyperparameter optimization]; AJ --> AL[Hyperparameter optimization]; AK --> AM[Hyperparameter optimization]; AL --> AN[Hyperparameter optimization]; AM --> AO[Hyperparameter optimization]; AN --> AP[Hyperparameter optimization]; AO --> AQ[Hyperparameter optimization]; AP --> AR[Hyperparameter optimization]; AQ --> AS[Hyperparameter optimization]; AR --> AT[Hyperparameter optimization]; AS --> AU[Hyperparameter optimization]; AT --> AV[Hyperparameter optimization]; AU --> AW[Hyperparameter optimization]; AV --> AX[Hyperparameter optimization]; AW --> AY[Hyperparameter optimization]; AX --> AZ[Hyperparameter optimization]; AY --> BA[Hyperparameter optimization]; AZ --> BB[Hyperparameter optimization]; BA --> BC[Hyperparameter optimization]; BB --> BD[Hyperparameter optimization]; BC --> BE[Hyperparameter optimization]; BD --> BF[Hyperparameter optimization]; BE --> BG[Hyperparameter optimization]; BF --> BH[Hyperparameter optimization]; BG --> BI[Hyperparameter optimization]; BH --> BJ[Hyperparameter optimization]; BI --> BK[Hyperparameter optimization]; BJ --> BL[Hyperparameter optimization]; BK --> BM[Hyperparameter optimization]; BL --> BN[Hyperparameter optimization]; BM --> BO[Hyperparameter optimization]; BN --> BP[Hyperparameter optimization]; BO --> BQ[Hyperparameter optimization]; BP --> BR[Hyperparameter optimization]; BQ --> BS[Hyperparameter optimization]; BR --> BT[Hyperparameter optimization]; BS --> BU[Hyperparameter optimization]; BT --> BV[Hyperparameter optimization]; BU --> BW[Hyperparameter optimization]; BV --> BX[Hyperparameter optimization]; BW --> BY[Hyperparameter optimization]; BX --> BZ[Hyperparameter optimization]; BY --> CA[Hyperparameter optimization]; BZ --> CB[Hyperparameter optimization]; CB --> CC[Hyperparameter optimization]; CC --> CD[Hyperparameter optimization]; CD --> CE[Hyperparameter optimization]; CE --> CF[Hyperparameter optimization]; CF --> CG[Hyperparameter optimization]; CG --> CH[Hyperparameter optimization]; CH --> CI[Hyperparameter optimization]; CI --> CJ[Hyperparameter optimization]; CJ --> CK[Hyperparameter optimization]; CK --> CL[Hyperparameter optimization]; CL --> CM[Hyperparameter optimization]; CM --> CN[Hyperparameter optimization]; CN --> CO[Hyperparameter optimization]; CO --> CP[Hyperparameter optimization]; CP --> CQ[Hyperparameter optimization]; CQ --> CR[Hyperparameter optimization]; CR --> CS[Hyperparameter optimization]; CR --> CS
```

The flowchart shows the progression from data reading to model selection, followed by a series of hyperparameter optimization steps. The right sidebar indicates that the experiment is completed, with 8 pipelines generated and a time elapsed of 3 minutes.



## PIPELINE COMPARISON GRAPH



# PIPELINES GENERATED

CKD Diagnosis ResultResource list - IBM CloudIBM Watson StudioInbox (1,081) - kcjayarajachanda

dataplatfrom.cloud.ibm.com/ml/auto-ml/e4f5799c-3b73-4e5e-a112-981af5eab761/train?projectid=384f47ba-d4ef-4e4e-9835-c9b80bc7a52d&conte...

IBM Watson StudioSearch in your workspacesBuyChandana Kamma Cheruvu...DallasCK

Projects / CKD\_AutoAI / CKD\_autoid

Experiment summaryPipeline comparison

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

	Rank ↑	Name	Algorithm	Accuracy (Optimized) Cross Validation	Average precision Cross Validation	Enhancements	Build time
★	1	Pipeline 8	LGBM Classifier	0.994	1.000	HPO-1 FE HPO-2	00:00:31
	2	Pipeline 7	LGBM Classifier	0.994	1.000	HPO-1 FE	00:00:22
	3	Pipeline 6	LGBM Classifier	0.994	1.000	HPO-1	00:00:03
	4	Pipeline 5	LGBM Classifier	0.994	1.000	None	00:00:01
	5	Pipeline 4	Snap Boosting Machine Classifier	0.994	1.000	HPO-1 FE HPO-2	00:00:21
	6	Pipeline 3	Snap Boosting Machine Classifier	0.994	1.000	HPO-1 FE	00:00:19

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CKD Diagnosis ResultResource list - IBM CloudIBM Watson StudioInbox (1,081) - kcjayarajachanda

dataplatfrom.cloud.ibm.com/ml/auto-ml/e4f5799c-3b73-4e5e-a112-981af5eab761/train?projectid=384f47ba-d4ef-4e4e-9835-c9b80bc7a52d&conte...

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Projects / CKD\_AutoAI / CKD\_autoid

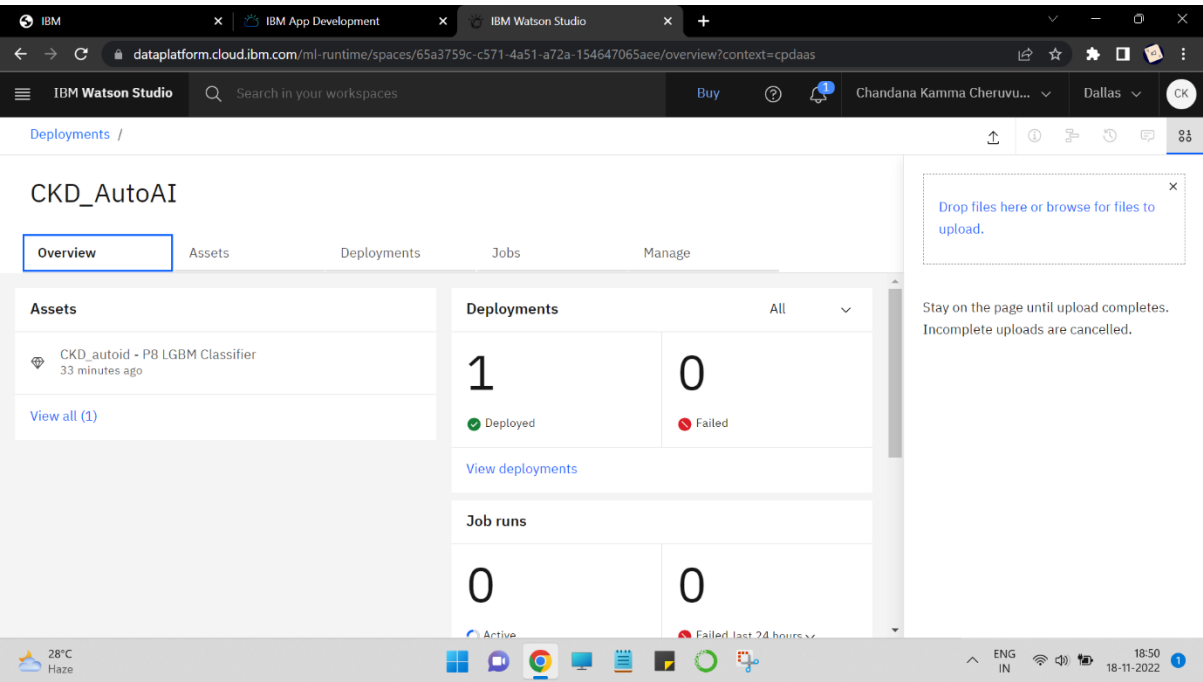
Experiment summaryPipeline comparison

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

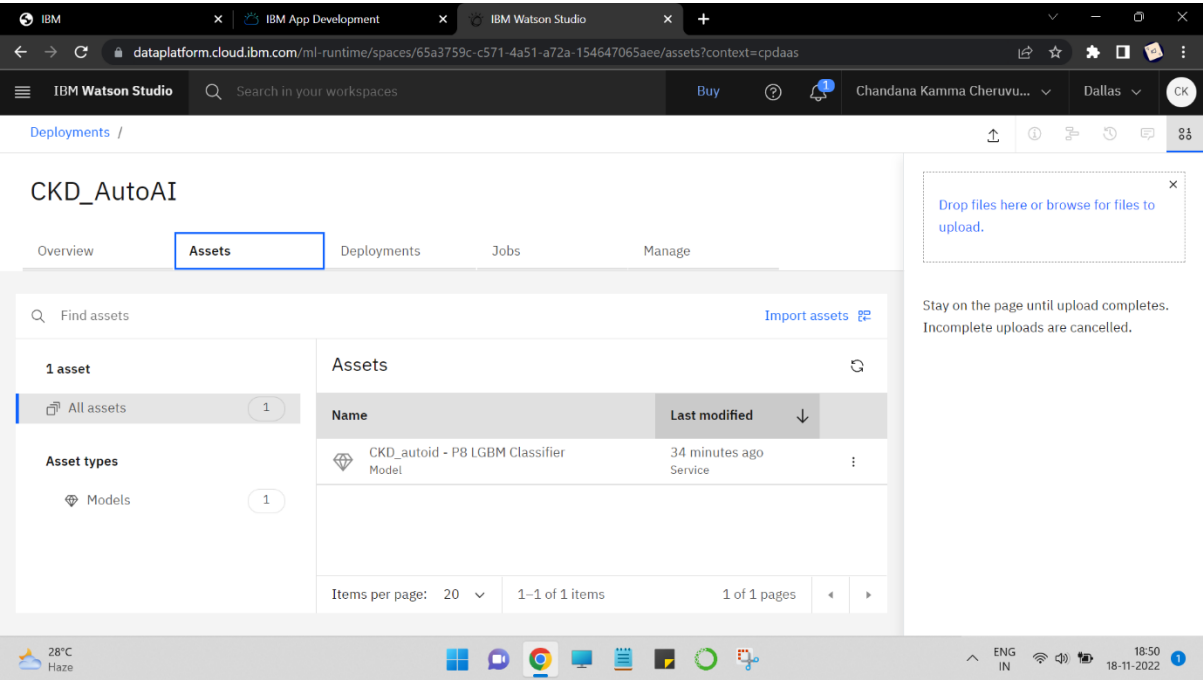
3	Pipeline 6	LGBM Classifier	0.994	1.000	HPO-1	00:00:03
4	Pipeline 5	LGBM Classifier	0.994	1.000	None	00:00:01
5	Pipeline 4	Snap Boosting Machine Classifier	0.994	1.000	HPO-1 FE HPO-2	00:00:21
6	Pipeline 3	Snap Boosting Machine Classifier	0.994	1.000	HPO-1 FE	00:00:19
7	Pipeline 2	Snap Boosting Machine Classifier	0.994	1.000	HPO-1	00:00:02
8	Pipeline 1	Snap Boosting Machine Classifier	0.994	1.000	None	00:00:01

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# OVERVIEW



# ASSETS



# DEPLOYMENTS

IBM

IBM App Development

IBM Watson Studio

← → ↺

dataplatfrom.cloud.ibm.com/ml-runtime/spaces/65a3759c-c571-4a51-a72a-154647065aee/deployments?context=cpdaas

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Name	Type	Status	Asset	Last modified	⌵
CKD_Autoai	Online	Deployed	CKD_autoid - P8 LGBM Classifier	25 minutes ago Chandana Kamma Cheruvu Jayaraja (You)	⋮

Items per page: 20 1-1 of 1 items 1 of 1 pages ⏪ ⏩

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## MANAGE DETAILS

IBM

IBM App Development

IBM Watson Studio

← → ↺

dataplatfrom.cloud.ibm.com/ml-runtime/spaces/65a3759c-c571-4a51-a72a-154647065aee/manage?context=cpdaas

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🔑 Access control

🌐 Environments

General

Space Details

Name  
CKD\_AutoAI

Description  
No description provided.

Space GUID  
65a3759c-c571-4a51-a72a-15464706...

Cloud Object...

Storage used  
71.22 KB used

Name  
Cloud Object Storage-qs

Bucket  
dd525174-2995-410a-a188-2524c073cfdc

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## API REFERENCE

IBM Watson Studio interface showing the deployment details for CKD\_Autoai. The deployment is marked as "Deployed" and "Online". The API reference section is active, displaying the direct link and code snippets for testing the model.

**CKD\_Autoai** Deployed Online

**API reference** Test

**Direct link**

Endpoint: `https://us-south.ml.cloud.ibm.com/ml/v4/deployments/00a8ab7f-d545-4181-afa7-f9fd8c0f7328?space_id=65a3759c-c571-4a51-a72a-154647065aee...`

Bearer <token>

**Code snippets**

**cURL** Java JavaScript Python Scala

```
# 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.
```

**CKD\_Autoai**

Created: Nov 18, 2022, 6:24 PM

Updated: Nov 18, 2022, 6:24 PM

Deployment ID: 00a8ab7f-d545-4181-afa7-f9fd...

Software specification: [hybrid\\_0.1](#)

Hybrid pipeline software specifications: [autoai-kb\\_rt22.2-py3.10](#)

Copies: 1

Serving name: No serving name.

## TEST MODEL

IBM Watson Studio interface showing the deployment details for CKD\_Autoai. The deployment is marked as "Deployed" and "Online". The API reference section is active, displaying the direct link and code snippets for testing the model.

**CKD\_Autoai** Deployed Online

**API reference** Test

**Enter input data**

**Text input** JSON input

Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.

[Download CSV template](#) [Browse local files](#) [Search in space](#) [Clear all](#)

	bp (integer)	al (integer)	bu (double)	sg (double)	sod (double)	hemo (double)	pcv (integer)	rc (double)	htn (integer)	dm (integer)
1	Start typing or drag and drop a CSV file...									

0 rows, 10 columns

**Predict**

## INPUTS TO TEST MODEL

IBM Watson Studio

Deployments / CKD\_AutoAI / CKD\_autoid - P8 LGBM Classifier /

### CKD\_Autoai

Deployed Online

API reference Test

#### Enter input data

Text input JSON input

Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.

[Download CSV template](#) [Browse local files](#) [Search in space](#) [Clear all](#)

	bp (integer)	al (integer)	bu (double)	sg (double)	sod (double)	hemo (double)	pcv (integer)	rc (double)	htn (integer)	dm (integer)
1	80	0	87	1.02	139	12.1	40	4.8	1	0

1 row, 10 columns

Predict

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## RESULT

IBM Watson Studio

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### CKD\_Autoai

Prediction results

Prediction type: Binary classification

Prediction percentage

1 Record

Table view JSON view

	Prediction	Confidence
1	1	100%
2		
3		
4		
5		
6		
7		
8		

Download

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