AUTO AI USING SUPERVISED LEARNING

An intelligent system powered by machine learning

WHAT IS AUTO AI ?

Auto AI is the process of automating machine learning tasks such as data preparation, model selection, and hyperparameter tuning, making AI accessible and efficient.

- Learns from labeled data
- Makes automated predictions/decisions

Data → Auto AI Engine → Prediction Output

Project Objective

- To develop an **automated AI system** using supervised learning
- Train models on **labeled data** to recognize patterns
- Enable **automatic prediction & decision-making** without manual intervention
- Provide a **scalable and efficient solution** for real-world applications

What is Supervised Learning?

- A machine learning approach where the model is **trained using labeled data** (input + correct output).
- The system learns the relationship between inputs and outputs to make future predictions.

Why Use It in Auto AI?

- Helps automate predictions on new, unseen data
- Ensures accuracy with minimal human intervention
- Can be scaled for multiple applications

Steps in Auto AI Workflow

1 **Data Collection**

- Gather labelled datasets from reliable sources

2 **Data Preprocessing**

- Clean, normalize, and split data for training & testing

3 **Model Training**

- Apply supervised algorithms (Decision Tree, SVM, Random Forest, etc.)

4 **Model Evaluation**

- Check accuracy, precision, recall, confusion matrix

5 **Automated Predictions**

- System generates outputs automatically for unseen data

Implementation

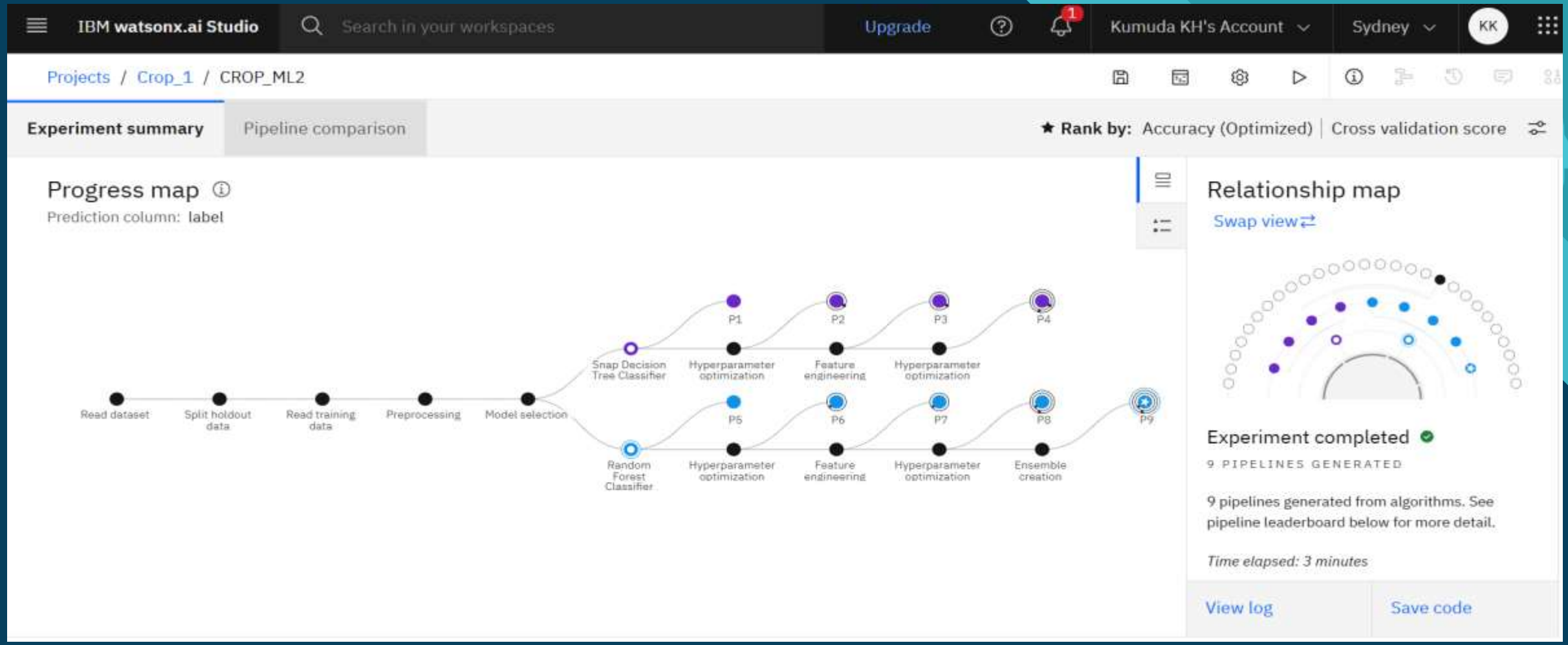
Platform Used

- **IBM Cloud – Auto AI**
- Fully automated ML pipeline (no manual coding required)
- **Handles:** Data preparation, model selection, training, and evaluation

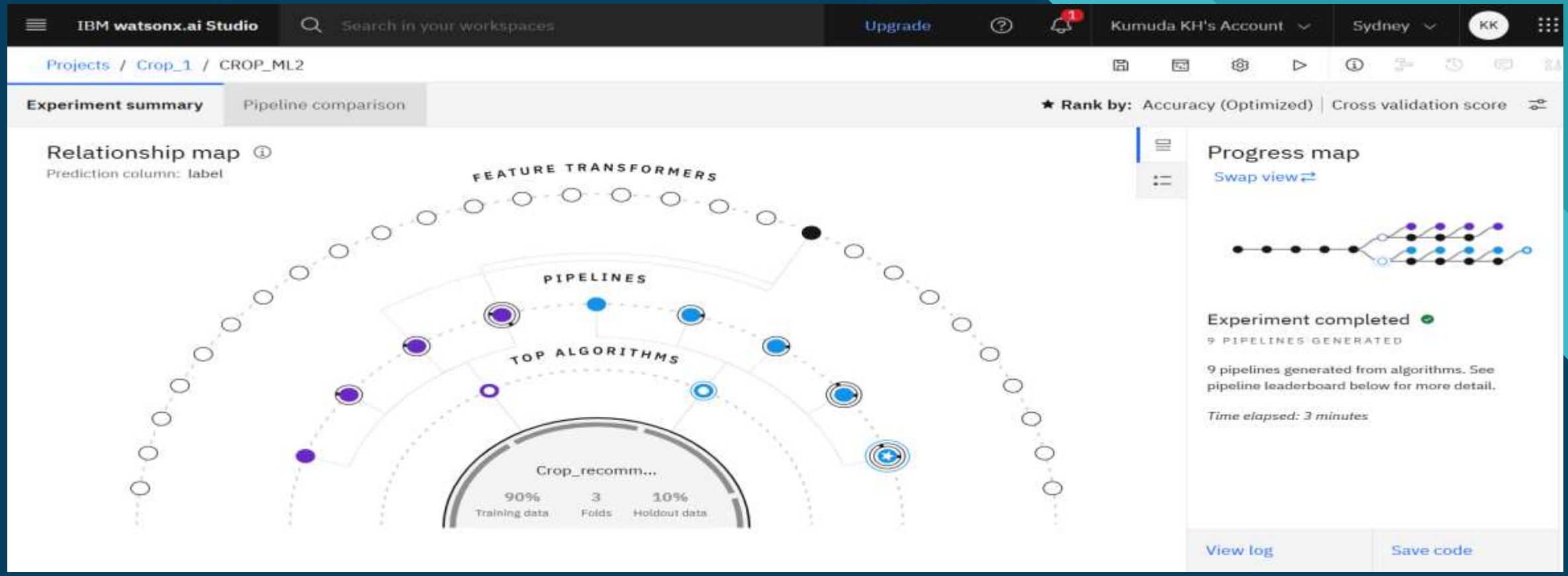
Dataset Used

- **Source:** Uploaded CSV dataset to IBM Cloud AutoAI (Crop_Recommendation.csv)
- **Type: Labelled dataset** (for supervised learning)

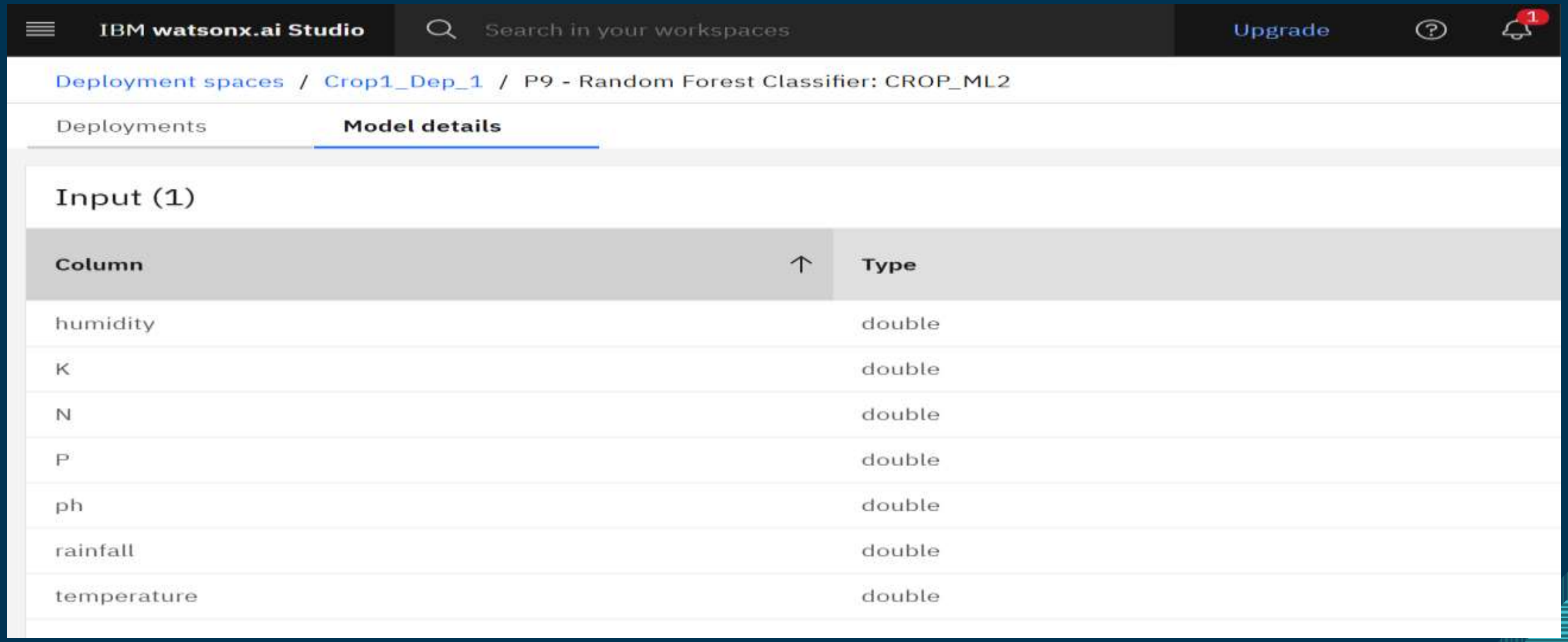
Progress Map



Relationship Map



INPUTS

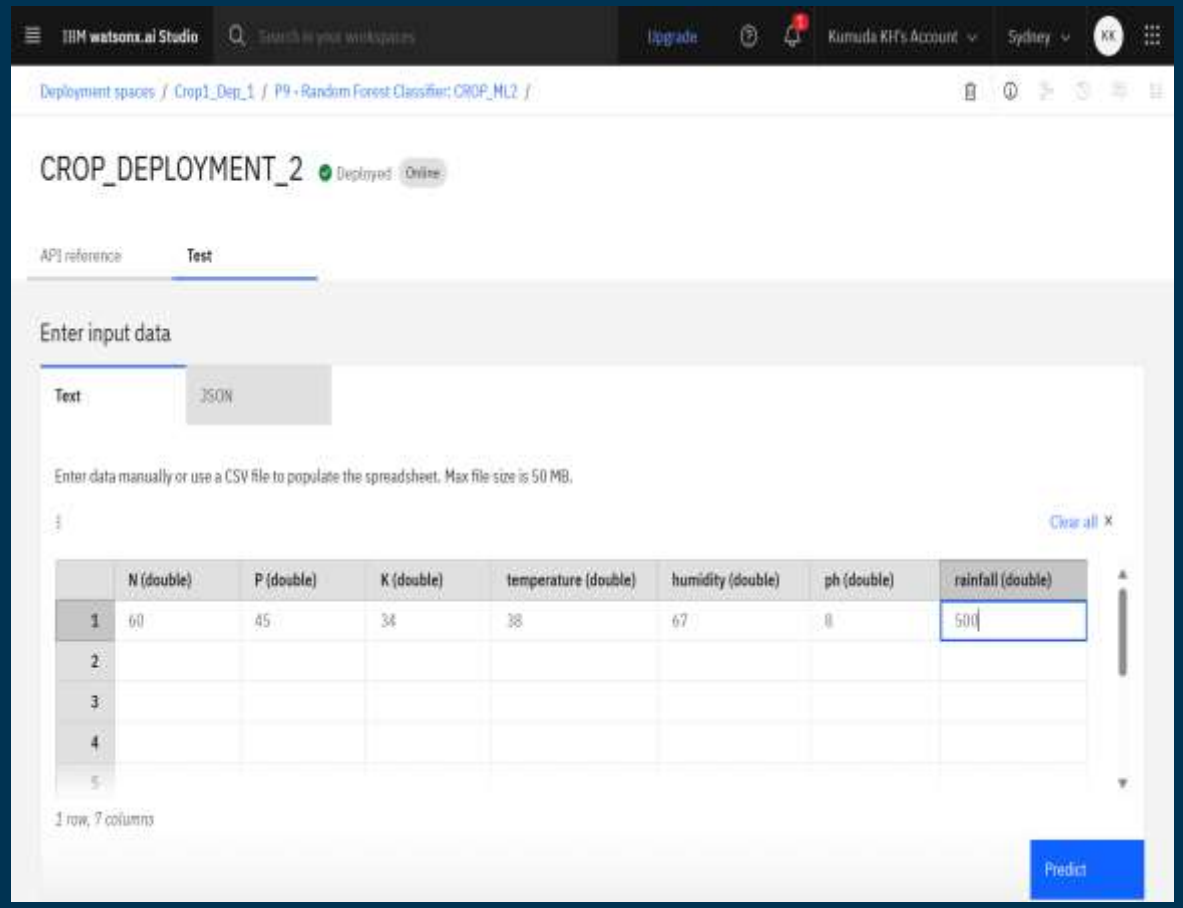

IBM watsonx.ai Studio
Search in your workspaces
Upgrade
1
Deployment spaces / Crop1_Dep_1 / P9 - Random Forest Classifier: CROP_ML2
Deployments
Model details
Input (1)
Column
Type
humidity
double
K
double
N
double
P
double
ph
double
rainfall
double
temperature
double

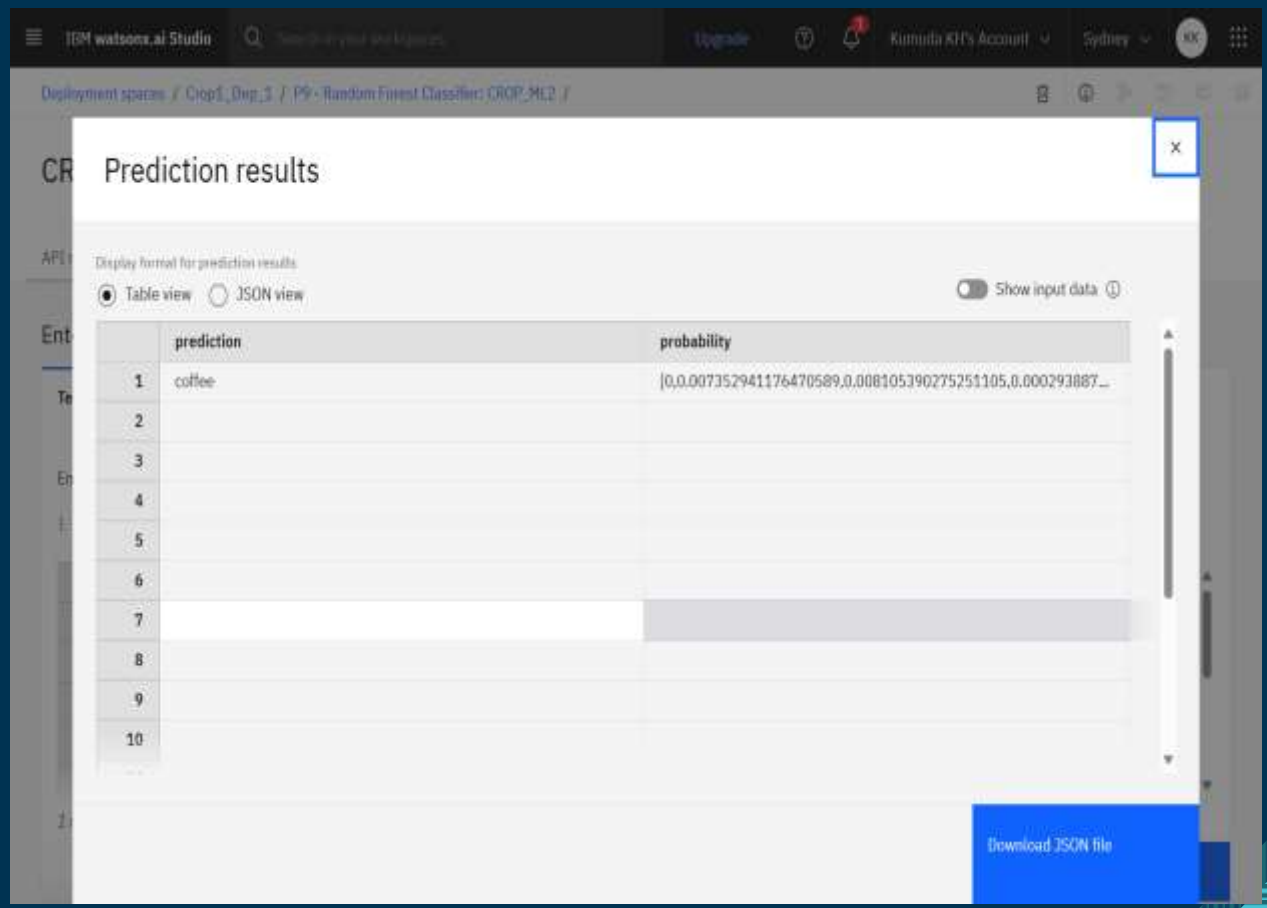
Ranking of Models

Pipeline leaderboard

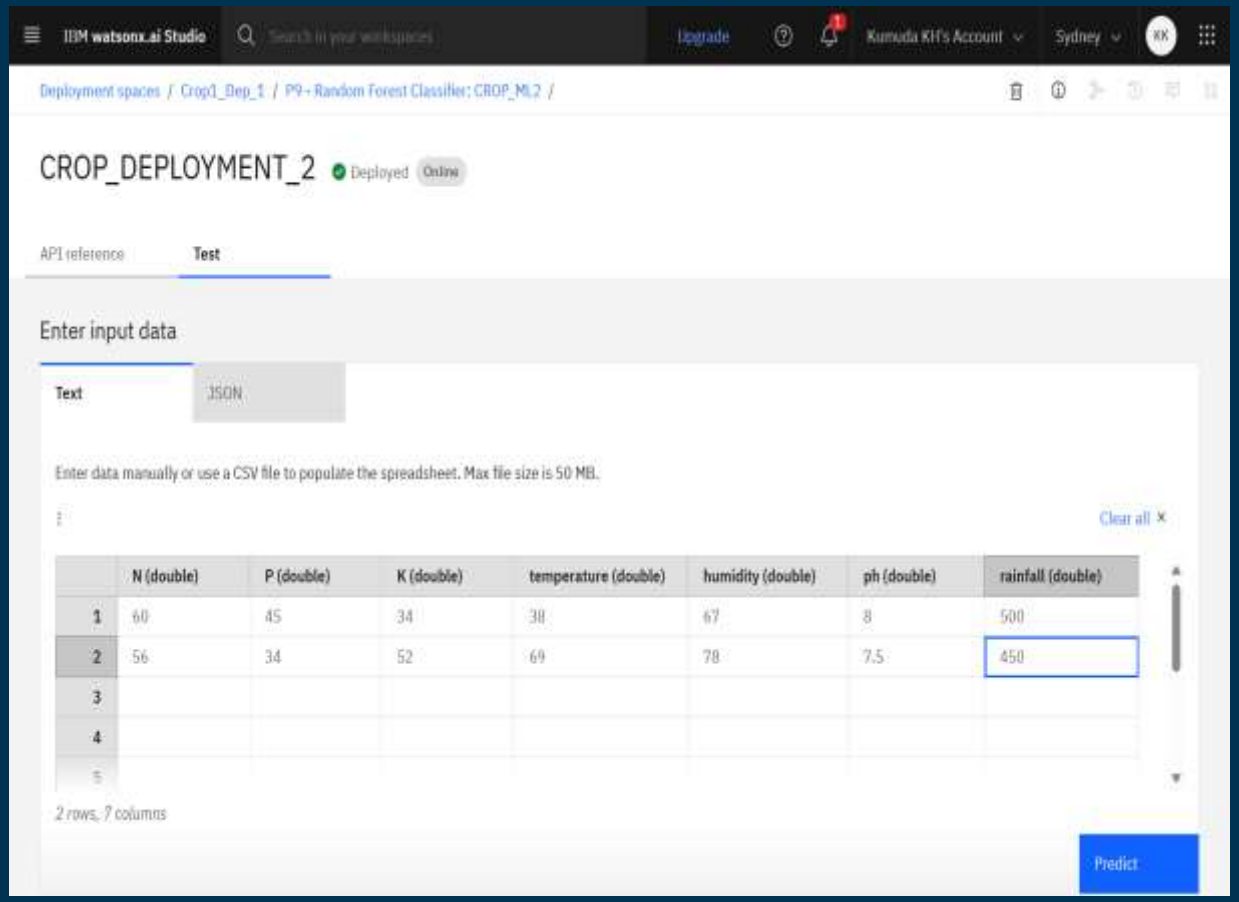
	Rank	Name	Algorithm	Specialization	Accuracy (Optimized) Cross Validation	Enhancements	Build time
★	1	**Pipeline 9**	Batched Tree Ensemble Classifier (Random Forest Classifier)	INCR	0.994	HPO-1 FE HPO-2 BATCH	00:00:59
	2	**Pipeline 8**	Random Forest Classifier		0.994	HPO-1 FE HPO-2	00:00:51
	3	**Pipeline 7**	Random Forest Classifier		0.992	HPO-1 FE	00:00:30
	4	**Pipeline 6**	Random Forest Classifier		0.992	HPO-1	00:00:07
	5	**Pipeline 5**	Random Forest Classifier		0.992	*None*	00:00:31
	6	**Pipeline 2**	Snap Decision Tree Classifier		0.980	HPO-1	00:00:03
	7	**Pipeline 1**	Snap Decision Tree Classifier		0.980	*None*	00:00:01
	8	**Pipeline 4**	Snap Decision Tree Classifier		0.976	HPO-1 FE HPO-2	00:00:28
	9	**Pipeline 3**	Snap Decision Tree Classifier		0.976	HPO-1 FE	00:00:24

Results


IBM watsonx.ai Studio
Upgrade
Kumuda KH's Account
Sydney
Deployment spaces / Crop1_Dep_1 / P9 - Random Forest Classifier: CROP_ML2 /
CROP_DEPLOYMENT_2
Deployed
Online
API reference
Test
Enter input data
Text
JSON
Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.
Clear all
N (double)
P (double)
K (double)
temperature (double)
humidity (double)
ph (double)
rainfall (double)
1
60
45
34
38
67
8
500
2
3
4
5
1 row, 7 columns
Predict


IBM watsonx.ai Studio
Prediction results
Display format for prediction results
Table view
JSON view
Show input data
prediction
probability
1
coffee
[0,0.007352941176470589,0.008105390275251105,0.000293887...
2
3
4
5
6
7
8
9
10
Download JSON file

Results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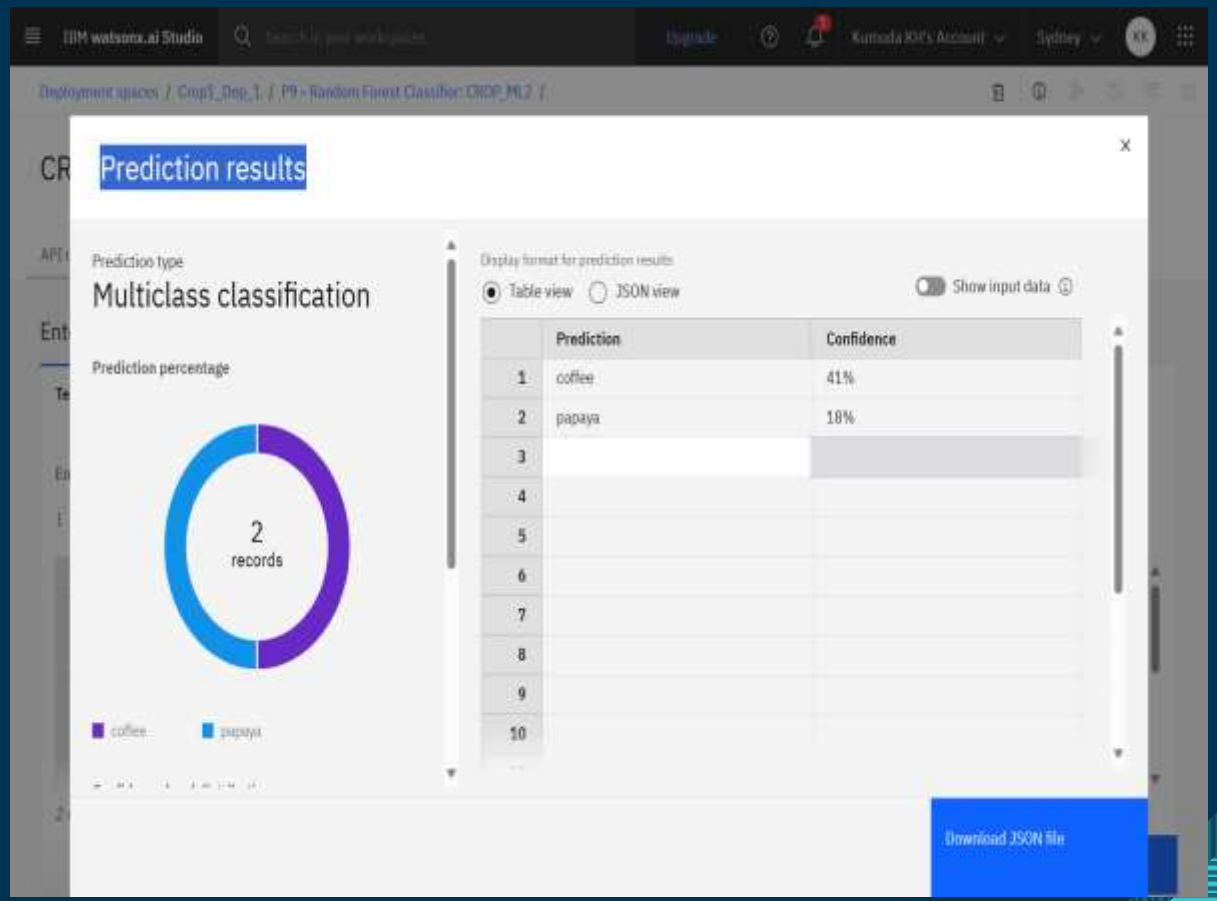
Deployment spaces / Crop1_Dep_1 / P9 - Random Forest Classifier: CROP_ML2 /
CROP_DEPLOYMENT_2
Deployed
Online
API reference
Test
Enter input data
Text
JSON
Enter data manually or use a CSV file to populate the spreadsheet. Max file size is 50 MB.
Clear all
N (double) P (double) K (double) temperature (double) humidity (double) ph (double) rainfall (double)
1 60 45 34 38 67 8 500
2 56 34 52 69 78 7.5 450
3
4
5
2 rows, 7 columns
Predict


Prediction results
Prediction type
Multiclass classification
Prediction percentage
2
records
coffee
papaya
Display format for prediction results
Table view
JSON view
Show input data
Prediction Confidence
1 coffee 41%
2 papaya 18%
3
4
5
6
7
8
9
10
Download JSON file

Thank You