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Assignment – 02

Regression Model

Challenger Dataset

Uploading the Dataset

Data Refinery

The screenshot displays the IBM Watson Studio interface for a Data Refinery project. The main workspace shows a table of data with columns: o_ring_ct, o_ring_failu..., temperature, pressure, and launch_id. The table contains 13 rows of data. On the left, the 'Steps (1)' panel shows a single step: '1. Convert column type', which is an 'Auto-generated' step. The 'Information' panel on the right shows details for the 'challengers.csv_flow' data refinery flow, including its location ('Challenger') and a description of the flow. The bottom status bar indicates the source file is 'challengers.csv' and the full data set consists of 23 rows.

	o_ring_ct Integer	o_ring_failu... Integer	temperature Integer	pressure Integer	launch_id Integer
1	6	0	66	50	1
2	6	1	70	50	2
3	6	0	69	50	3
4	6	0	68	50	4
5	6	0	67	50	5
6	6	0	72	50	6
7	6	0	73	100	7
8	6	0	70	100	8
9	6	1	57	200	9
10	6	1	63	200	10
11	6	1	70	200	11
12	6	0	78	200	12
13	6	0	67	200	13

Service Details - IBM Cloud x IBM Watson Studio x Vellore Institute of Technology (V) x (3) WhatsApp x +

eu-gb.dataplatform.cloud.ibm.com/projects/946ec63d-c409-41ef-a918-0fd7a01fbb29/assets?context=cpdaas

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Projects / Challenger

Overview Assets Jobs Manage

Find assets Add asset New asset

2 assets

All assets

Asset types

- Data 1
 - Data asset 1
- Flows 1
 - Data Refinery flow 1

Flows

Name	Last modified
challengers.csv_flow Data Refinery flow	2 minutes ago Shashwat Karm (You)

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

Data in this project

Drop data files here or browse for files to upload

Type here to search 40°C Sunny 1634 29-04-2022

Import Dataset

Service Details - IBM Cloud x IBM Watson Studio x Vellore Institute of Technology (V) x (3) WhatsApp x +

eu-gb.dataplatform.cloud.ibm.com/canvas/flows/d13977e5-982b-441d-8ab6-112f6e606a3c?context=cpdaas&projectGuid=946ec63d-c409-41ef-a918-0fd7a01fbb29&env_id=mods-946ec63d-c40...

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Projects / Challenger / Challengers

Find palette nodes Run selection

Import

- Data Asset
- User Input
- Sim Gen
- Extension Import

Record Operations

Field Operations

Modeling

Text Analytics

Graphs

Outputs

Export

Data Asset

Type here to search 39°C Sunny 1639 29-04-2022

Audit

Service Details - IBM Cloud

IBM Watson Studio

Vellore Institute of Technology

WhatsApp

+

eu-gb.dataplatform.cloud.ibm.com/canvas/flows/d13977e5-982b-441d-8ab6-112f6e06a3c?context=cpdaas&projectGuid=946ec63d-c409-41ef-a918-0fd7a01fbb29&env_id=mods-946ec63d-c40...

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Projects / Challenger / Challengers

Find palette nodes

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Time Intervals

Anonymize

Reproject

Modeling

Text Analytics

Graphs

Outputs

Table

Matrix

Analysis

Data Audit

Transform

Statistics

Data Asset

5 Fields

Type here to search

39°C Sunny

16:43

29-04-2022

Data Audit

eu-gb.dataplatform.cloud.ibm.com/canvas/flows/d13977e5-982b-441d-8ab6-112f6e06a3c?context=cpdaas&projectGuid=946ec63d-c409-41ef-a918-0fd7a01fbb29&env_id=mods-946ec63d-c40...

IBM Watson Studio

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Projects / Challenger / Challengers

View Output: Data Audit of [o_ring_ct o_ring_failures temperature pressure launch_id]

Compare

×

	Field	Graph	Measurement	Min	Max	Mean	Std. Dev	Skewness	Unique	Valid
1	o_ring_ct		Continuous	6	6	6	0	--	--	23
2	o_ring_failures		Continuous	0	2	0.304	0.559	1.735	--	23
3	temperature		Continuous	53	81	69.565	7.057	-0.654	--	23
4	pressure		Continuous	50	200	152.174	68.221	-0.791	--	23
5	launch_id		Continuous	1	23	12	6.782	0	--	23

Field	Measurement	Outliers	Extremes	Action	Impute Missing	Method	% Complete	Valid Records	Null Value	Empty String
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Type here to search

39°C Sunny

16:49

29-04-2022

Apply Regression Model

The screenshot shows the IBM Watson Studio interface. The top navigation bar includes the IBM logo, a search bar, and user account information. The main workspace displays a workflow diagram with the following steps: 'Data Asset' (purple icon) points to 'Type' (blue icon), which points to 'Partition' (blue icon). 'Partition' points to 'o_ring_failures' (green icon). Below 'Data Asset' is a green icon labeled '5 Fields'. Below 'o_ring_failures' is a green icon labeled 'o_ring_failures'. The left sidebar lists various models: GenLin, GLMM, GLE, Linear, Linear-AS, Regression, LSVM, Logistic, Neural Net, KNN, Cox, PCA/Factor, and others. The right sidebar shows the 'Outputs' section with a message: 'Outputs are available during your SPSS Modeler session. After your session ends, the outputs are no longer available.' Below this message is a section for 'All results' with a checkbox and a list of outputs, including 'Data Audit of [o_rin...]'.

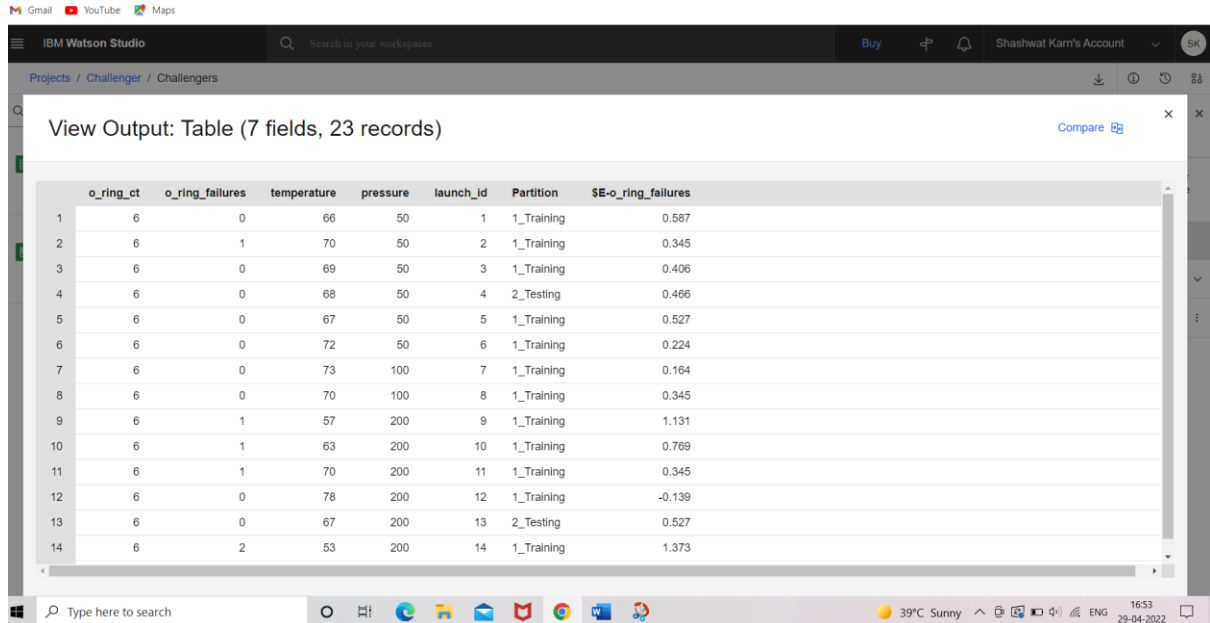
Model View

The screenshot shows the 'View Model: o_ring_failures' window in IBM Watson Studio. The window has a title bar and a close button. The main content area is divided into two sections: 'Regression' and 'Model Summary'. The 'Model Summary' section contains a table with the following data:

	1
R	0.766 [1]
R Square	0.587
Adjusted R Square	0.561
Std. Error of the Estimate	0.402

Below the table, there is a note: '[1] Predictors: (Constant), %1, temperature'. The left sidebar of the window lists various models: Regression, ANOVA, Coefficients, MODEL VIEWER, Build Settings, and Training Summary. The right sidebar shows the 'Outputs' section with a message: 'Outputs are available during your SPSS Modeler session. After your session ends, the outputs are no longer available.' Below this message is a section for 'All results' with a checkbox and a list of outputs, including 'Data Audit of [o_rin...]'.

Tabular Result



The screenshot shows the IBM Watson Studio interface. At the top, there's a navigation bar with 'IBM Watson Studio' and a search bar. Below it, the breadcrumb 'Projects / Challenger / Challengers' is visible. The main content area displays 'View Output: Table (7 fields, 23 records)' with a 'Compare' button. The table has 7 columns: 'o_ring_ct', 'o_ring_failures', 'temperature', 'pressure', 'launch_id', 'Partition', and '\$E-o_ring_failures'. The first 14 rows are visible, showing data for various launch IDs and partitions, with the last row being a 14th launch ID in the 1st partition.

	o_ring_ct	o_ring_failures	temperature	pressure	launch_id	Partition	\$E-o_ring_failures
1	6	0	66	50	1	1_Training	0.587
2	6	1	70	50	2	1_Training	0.345
3	6	0	69	50	3	1_Training	0.406
4	6	0	68	50	4	2_Testing	0.466
5	6	0	67	50	5	1_Training	0.527
6	6	0	72	50	6	1_Training	0.224
7	6	0	73	100	7	1_Training	0.164
8	6	0	70	100	8	1_Training	0.345
9	6	1	57	200	9	1_Training	1.131
10	6	1	63	200	10	1_Training	0.769
11	6	1	70	200	11	1_Training	0.345
12	6	0	78	200	12	1_Training	-0.139
13	6	0	67	200	13	2_Testing	0.527
14	6	2	53	200	14	1_Training	1.373

Link of SSP Modeller

https://eu-gb.dataplatform.cloud.ibm.com/canvas/flows/d13977e5-982b-441d-8ab6-112fbe606a3c?context=cpdaas&project_id=946ec63d-c409-41ef-a918-0fd7a01fbb29