

.Experiment Title.

FRAUD DETECTION IN THE INSURANCE BUSINESS

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Branch: IIIrd yr CSE

Section/Group: C

Semester: 6th

Date of Performance: 24/02/2021

Subject Name: Predictive Modelling Analytics

Subject Code: CS 18.338

1. Aim/Overview of the practical: To implement the **hypothesis 3** into the Fraud Detection (**Data Refinery Visualization**).

2. Task to be done: Discuss How **IBM Watson Studio** empowers us to scale analysis across your org to speed dev time and simplify collaboration with data scientists, risk analysts, investigators, and other subject matter experts while adhering to strong governance and security posture. In order to respond to new types of fraud, waste and abuse while minimizing false negatives and accelerating response, the platform continuously accommodates real-time data, monitors and detects fraudulent activities and adapts as the patterns change and spot anomalies.

3. Apparatus (For applied/experimental sciences/materials based labs): The following apparatus we need are:

- Internet connectivity
- IBM cloud account
- IBM WATSON service
- NIC Data Set

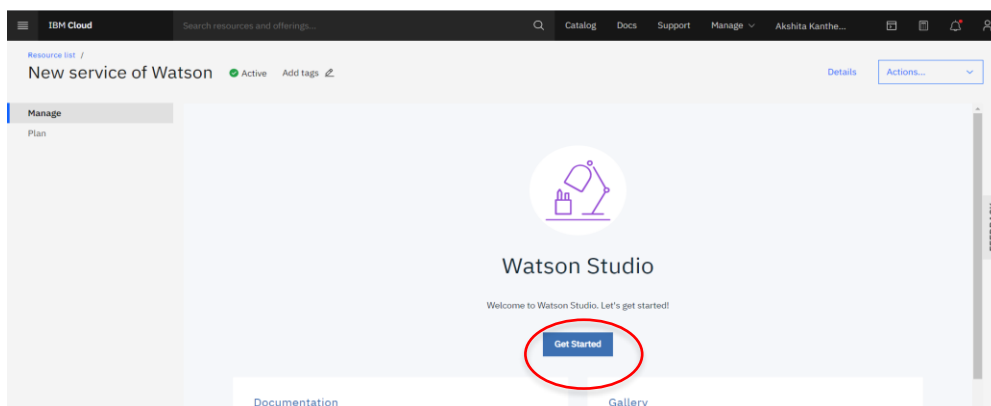
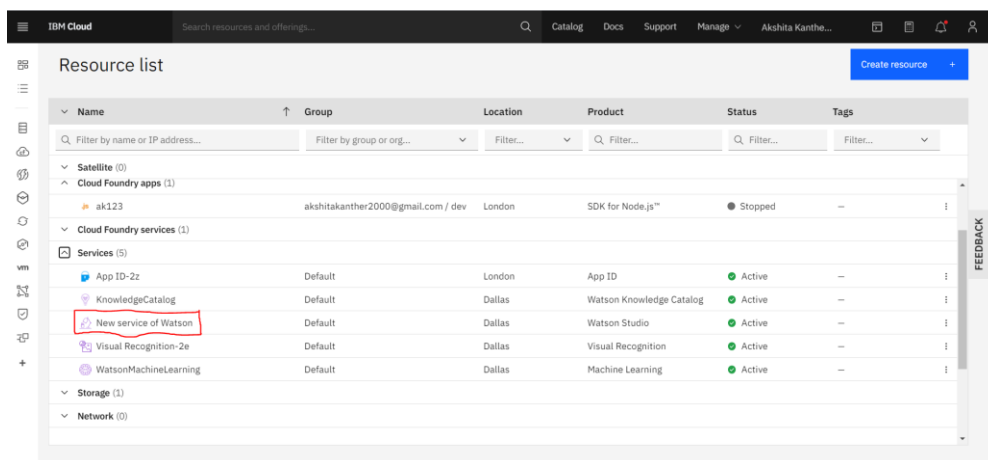
4. Hypothesis

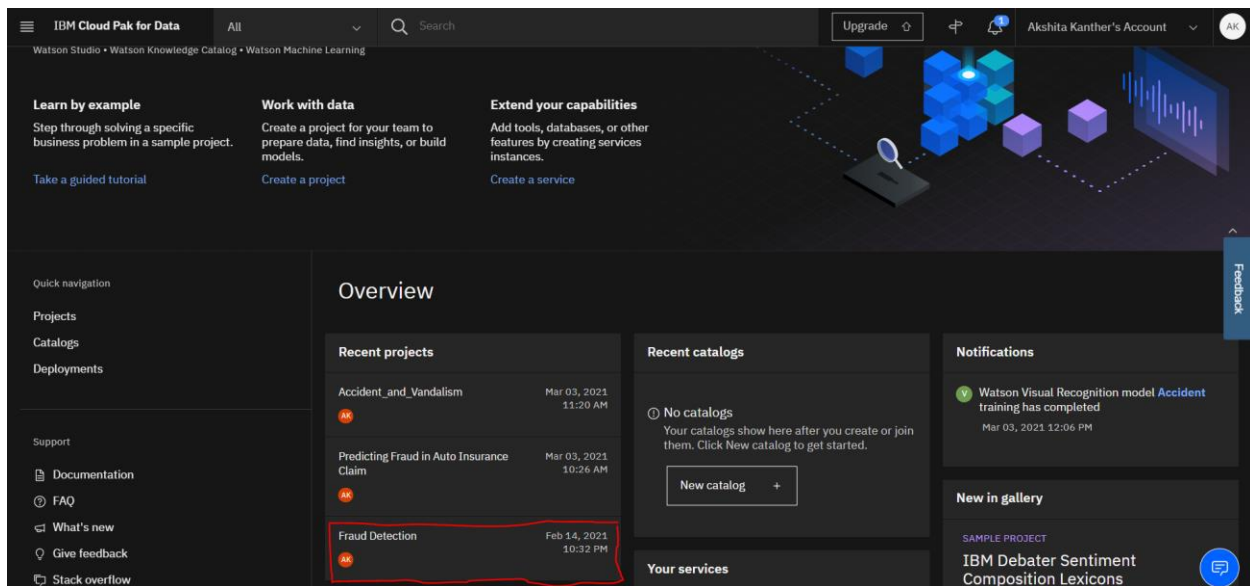
2. Claim filed after the license expiration date.
3. Excessive claim amount, which is over \$10000 in value.

6. Steps for experiment/practical: The following steps are:

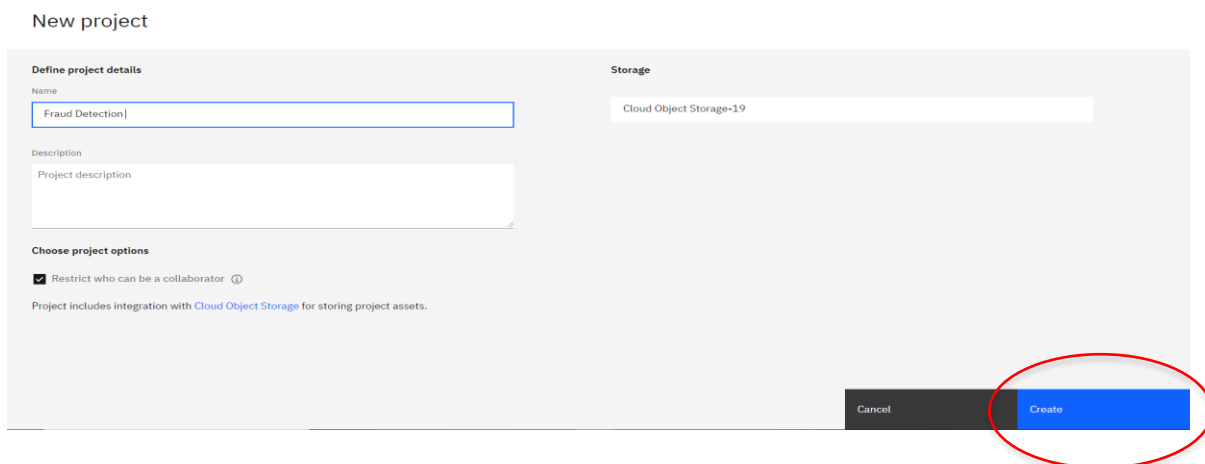
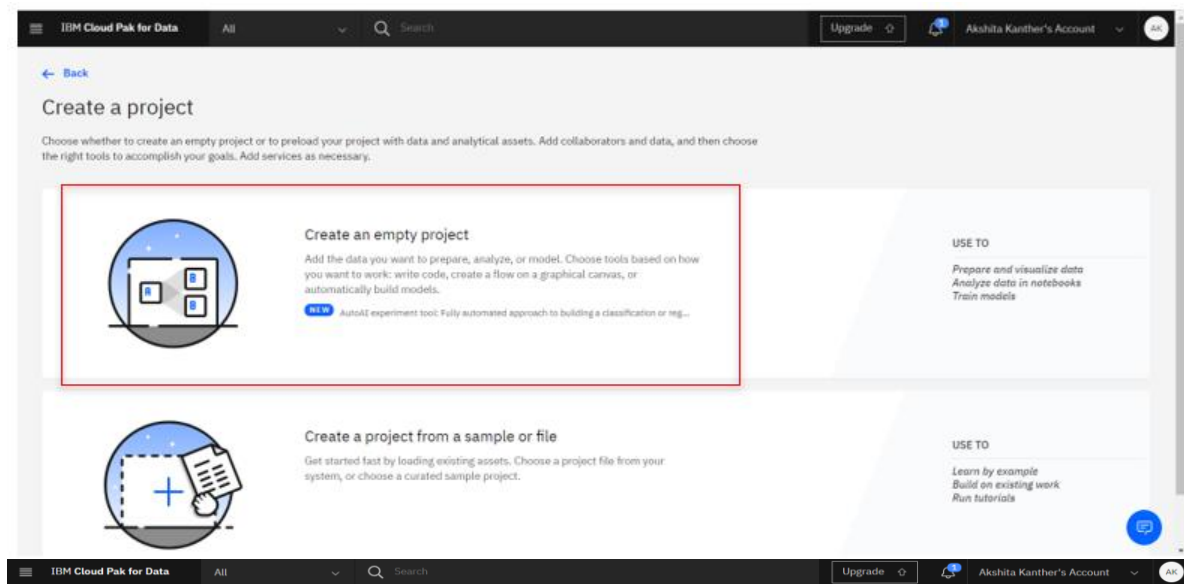
1. Login to your IBM Cloud account.

2. Go to your Watson Service and start a new project or start recent project which is already created.





3. Load the AutoInsClaims dataset on the cloud.



IBM Cloud Pak for Data

Projects / Fraud Detection

Overview Assets Environments Jobs Access Control Settings

Fraud Detection

Last Updated: Mar 08, 2021

Readme

0 Assets 1 Collaborators

Overview

Date created
Mar 08, 2021

Description
No description available

Storage
0 Byte used
Cloud Object Storage

Collaborators
Akshita Kanther
Admin
View all (1)

Recent activity

Alerts related to this project appear here when the project is active.

Readme Back to top

IBM Cloud Pak for Data

Projects / Fraud Detection

Overview Assets Environments Jobs Access Control Settings

What assets are you looking for?

▼ Data assets

Name	Type	Created by	Last modified
You don't have any Data assets yet.			

Data

Load Files Catalog

Drop files here or **browse** for files to upload.

IBM Cloud Pak for Data

Projects / Fraud Detection

Overview Assets Environments Jobs Access Control Settings

What assets are you looking for?

▼ Data assets

0 assets selected.

<input type="checkbox"/>	Name	Type	Created by	Last modified
<input type="checkbox"/>	AutoInsClaims.csv	Data Asset	Akshita Kanther	Feb 14, 2021, 10:35 PM

Data

Load Files Catalog

Drop files here or **browse** for files to upload.

4. Clean the data, click on REFINE. Delete the following columns as they are not required for our hypothesis- household_id, driver_id, policy_id, claim_id, description, primary_driver_id, model_year, make, model, plate, color, first_name, ssn, last_name, driver_license_id, contact_number, e-mail, driver_license_state.

IBM Cloud Pak for Data									
All									
Search									
Upgrade									
Akshita Kanther's Account									
Projects / Fraud Detection / AutoInsClaims.csv									
Preview									
Profile									
Activities									
Schema: 38 Columns									
Preview: 975 rows									
Last refresh: just now									
Refine									
HOUSEHOL...	DRIVER_ID	POLICY_ID	CLAIM_ID	INCIDENT_C...	DESCRIP...	CLAIM_ST...	ODOMETER_AT...	LOSS_EVENT...	
String	String	String	String	String	String	String	String	String	
CH42335	XZ32837	NW5567882	A-2017-UU907	3		1	157654.9	4/25/17	
IH49805	VVR6423	UR4864804	A-2018-FI481	3		3	226154.5	8/26/18	
AF28736	UQM2512	RR8595908	A-2016-ZG694	1		1	83968.6	1/7/16	
EF53594	YDT5591	RN5640634	A-2016-NG783	1		1	309570.3	12/11/16	
LD32277	ONM5465	YY1229530	A-2017-ZO863	3		3	136633.9	6/6/17	
DM94074	GBU7751	XP3473763	A-2018-XB432	1		3	326514.1	3/6/18	
MD38210	CBR4335	US5444269	A-2017-XP758	2		3	58477.9	8/13/17	
GL77908	HZF3884	XR1994270	A-2017-QY946	1		3	176476.9	2/10/17	
BA26199	CSE9523	VP6368585	A-2018-LB818	3		3	277812.7	2/16/18	
EA38976	HFX7408	YP9758006	A-2016-QO338	5		3	190541.3	12/28/16	
GB64343	PXE3728	XY6800348	A-2017-CK710	1		3	290975.1	8/12/17	
JG99629	OKH5337	ZK6994471	A-2018-WF114	3		1	159873.2	7/30/18	

IBM Cloud Pak for Data									
All									
Search									
Upgrade									
Akshita Kanther's Account									
Projects / Fraud Detection / AutoInsClaims.csv / Refine data									
Operation									
Code an operation to cleanse and shape your data									
Previewing first 50 rows									
Reading and processing data sample...									
Details									
Help									
Edit									
LOCATION									
Fraud Detection									
DATA REFINERY FLOW NAME									
AutoInsClaims.csv_flow									
Enter a description of the Data Refinery flow									
STEPS									
0									
DATA REFINERY FLOW OUTPUT									
Location									
SOURCE FILE: AutoInsClaims.csv									
SAMPLE SIZE: First 50 rows									
HOUSEHOLD_ID	DRIVER_ID	POLICY_ID	CLAIM_ID	INCIDENT_CAU...	DESCRIPTION	CLAIM_STATUS			
1	CH42335	XZ32837	NW5567882	A-2017-UU907	3	1			
2	IH49805	VVR6423	UR4864804	A-2018-FI481	3	3			
3	AF28736	UQM2512	RR8595908	A-2016-ZG694	1	1			
4	EF53594	YDT5591	RN5640634	A-2016-NG783	1	1			
5	LD32277	ONM5465	YY1229530	A-2017-ZO863	3	3			
6	DM94074	GBU7751	XP3473763	A-2018-XB432	1	3			
7	MD38210	CBR4335	US5444269	A-2017-XP758	2	3			
8	GL77908	HZF3884	XR1994270	A-2017-QY946	1	3			
9	BA26199	CSE9523	VP6368585	A-2018-LB818	3	3			
10	EA38976	HFX7408	YP9758006	A-2016-QO338	5	3			
11	GB64343	PXE3728	XY6800348	A-2017-CK710	1	3			
12	JG99629	OKH5337	ZK6994471	A-2018-WF114	3	1			
13	CH42335	XZ32837	NW5567882	A-2017-UU907	3	1			

Remove

Removed HOUSEHOLD_ID

Remove

Removed DRIVER_ID

Remove

Removed POLICY_ID

Remove

Removed CLAIM_ID

Remove

Removed DESCRIPTION

Remove

Removed MODEL_YEAR

Remove

Removed PRIMARY_DRIVER_ID

Remove

Removed MODEL

Remove

Removed MAKE

Remove

Removed PLATE

Remove

Removed COLOR

Remove

Removed FIRST_NAME

Remove

Removed LAST_NAME

5. Convert all the date columns into MDY format. For the same, select the column, click on convert and select date, select current order as (mdy) and apply.

CLAIM_ST... String	ODOMETER_AT_... String	LOSS_EVENT_... String	CLAIM_INIT_... String	POLICE_RE... String	CLAIMS_AT_LOSS_... String	LOSS_LOCATION... String	LO... Stri
1	157654.9	4/25/17	4/28/17	1	1	41.90210313	-87
3	226154.5	8/26/18	8/31/18	0	1	41.96356191	-87
1	83968.6	1/7/16	1/11/16	0	2	41.73660156	-87
1	309570.3	12/11/16	12/18/16	0	1	41.90992525	-87
3	136633.9	6/6/17	6/8/17	0	1	41.9237502	-87
3	326514.1	3/6/18	3/19/18	0	1	41.90925707	-87
3	58477.9	8/13/17	8/18/17	0	1	41.92839511	-87
3	176476.9	2/10/17	2/18/17	0	1	41.88571554	-87
3	277812.7	2/16/18	2/24/18	0	1	41.89505399	-87
3	190541.3	12/28/16	1/11/17	0	1	41.89197561	-87
3	290975.1	8/12/17	8/25/17	0	1	41.91122338	-87
1	159873.2	7/30/18	7/30/18	1	5	41.73583545	-87

IBM Cloud Pak for Data

All

Search

Upgrade

Akshita Kanther's Account

AK

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation

Code an operation to cleanse and shape your data

Data

Profile

Visualizations

INCIDENT_CAU...

Integer

CLAIM_STATUS

Integer

ODOMETER_AT...

Decimal

LOSS_EVENT_TI...

Date

CLAIM_INIT_TI...

Date

34 Steps

Convert column type

Manually converted data types for 1 column.

Convert column type

Manually converted data types for 1 column.

Convert column type

Manually converted data types for 1 column.

Convert column type

Manually converted data types for 1 column.

LOCATION

Fraud Detection

DATA REFINERY FLOW NAME

AutoInsClaims.csv_flow

Enter a description of the Data Refinery flow

STEPS

34

DATA REFINERY FLOW OUTPUT

Location

Fraud Detection/Data assets

Data set name

Clean Claim Data

SOURCE FILE: AutoInsClaims.csv

SAMPLE SIZE: First 975 rows

6. Save the refined data, click on Details then click on edit. Click on edit output and name the data set as (cleansed claim date.csv). click on done.

IBM Cloud Pak for Data

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation + Code an operation to cleanse and shape your data

Data Profile Visualizations

	INCIDENT_CAUSE	CLAIM_STATUS	ODOMETER_AT	LOSS_EVENT_TIME	CLAIM_INIT_TIME
1	3	1	157654.9	2017-04-25	2017-04-28
2	3	3	226154.5	2018-08-26	2018-08-31
3	1	1	83968.6	2016-01-07	2016-01-11
4	1	1	309570.3	2016-12-11	2016-12-18
5	3	3	136633.9	2017-06-06	2017-06-08
6	1	3	326514.1	2018-03-06	2018-03-19
7	2	3	58477.9	2017-08-13	2017-08-18
8	1	3	176476.9	2017-02-10	2017-02-18
9	3	3	277812.7	2018-02-16	2018-02-24
10	5	3	190541.3	2016-12-28	2017-01-11
11	1	3	290975.1	2017-08-12	2017-08-25
12	3	1	159873.2	2018-07-30	2018-07-30
13	1	3	301944.0	2018-07-27	2018-07-26

SOURCE FILE: AutoInsClaims.csv SAMPLE SIZE: First 975 rows

24 Steps

- Convert column type
- Manually converted data types for 1 column.
- Convert column type
- Manually converted data types for 1 column.
- Convert column type
- Manually converted data types for 1 column.
- Convert column type
- Manually converted data types for 1 column.

Information

Details Edit

LOCATION

Fraud Detection

DATA REFINERY FLOW NAME

AutoInsClaims.csv_flow

Enter a description of the Data Refinery flow

STEPS

34

DATA REFINERY FLOW OUTPUT

Location

IBM Cloud Pak for Data

Projects / Fraud Detection / AutoInsClaims.csv_flow

DATA REFINERY FLOW DETAILS

LOCATION

Fraud Detection

DATA REFINERY FLOW NAME

AutoInsClaims.csv_flow

Enter a description of the Data Refinery flow

STEPS

34

DATA REFINERY FLOW OUTPUT

Location

Fraud Detection/Data assets

Data set name

Clean Claim Data

Enter a description of the resulting data set.

✓ If the data set already exists, overwrite the data in the existing data set with the Data Refinery flow output.

Review the Data Refinery flow details and the Data Refinery flow output details.

Done

7. Go to Data Refinery Flow and select AutoInsClaims.csv_flow. Select Loss_event_time column, go on operations and select ext (extract date or time value), select Day Of The Year and create a new column with column name as (loss_event_days) and click on apply. Save the data.

← → ↻ dataplatform.cloud.ibm.com/projects/d79eb699-3782-4693-896b-8b8476522500/assets/context=cpdaas

IBM Cloud Pak for Data All Search Upgrade Akshita Kanther's Account

Projects / Fraud Detection Overview Assets Environments Jobs Access Control Settings

What assets are you looking for?

▼ Data assets
0 assets selected.

Name	Type	Created by	Last modified
csv AutoInsClaims.csv	Data Asset	Akshita Kanther	Feb 14, 2021, 10:35 PM

▼ Data Refinery flows

Name	Type	Created by	Last modified
AutoInsClaims.csv_flow	Data Refinery flow	Akshita Kanther	Mar 01, 2021, 08:13 PM

Data Load Files Catalog

Drop files here or browse for files to upload.

IBM Cloud Pak for Data All Search Upgrade Akshita Kanther's Account

Projects / Fraud Detection / AutoInsClaims.csv_flow

Previewing

Details Help

Edit

LOCATION
Fraud Detection

DATA REFINERY FLOW NAME
AutoInsClaims.csv_flow
Enter a description of the Data Refinery flow

STEPS
34

Data assets

Input → Output

AutoInsClaims.csv → Clean Claim Data

IBM Cloud Pak for Data All Search Upgrade Akshita Kanther's Account

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation Code an operation to cleanse and shape your data

Profile Visualizations

INCIDENT_CAU...	CLAIM_STATUS	ODOMETER_AT...	LOSS_EVENT_TI...	CLAIM_INIT_TI...
Integer	Integer	Decimal	Date	Date
1 3	1	157654.9	2017-04-25	2017-04-28
2 3	3	226154.5	2018-08-26	2018-08-31
3 1	1	83968.6	2016-01-07	2016-01-11
4 1	1	309570.3	2016-12-11	2016-12-18
5 3	3	136633.9	2017-06-06	2017-06-08
6 1	3	326514.1	2018-03-06	2018-03-19
7 2	3	58477.9	2017-08-13	2017-08-18
8 1	3	176476.9	2017-02-10	2017-02-18
9 3	3	277812.7	2018-02-16	2018-02-24
10 5	3	190541.3	2016-12-28	2017-01-11
11 1	3	290975.1	2017-08-12	2017-08-25
12 3	1	159873.2	2018-07-30	2018-07-30
13 1	3	301844.0	2018-07-30	2018-07-30

34 Steps

Convert column type
Manually converted data types for 1 column.

Convert column type
Manually converted data types for 1 column.

Convert column type
Manually converted data types for 1 column.

Convert column type
Manually converted data types for 1 column.

DATA REFINERY FLOW OUTPUT

Location
Fraud Detection/Data assets

Data set name
Clean Claim Data

SOURCE FILE: AutoInsClaims.csv SAMPLE SIZE: First 975 rows

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation + Code an operation to cleanse and shape your data

< Extract date or time value

Change column selection

Selected column: LOSS_EVENT_TIME

Extract day, month, year from a date column.

Day of year

☒ Create new column for results

loss_event_days

Cancel Apply

LOSS_EVENT_TIME

Date

2017-04-25

2018-08-26

2016-01-07

2016-12-11

2017-06-06

2018-03-06

2017-08-13

2017-02-10

2018-02-16

2016-12-28

2017-08-12

2018-07-11

2017-02-22

SAVE

Steps

Information

Details Help

Edit

LOCATION

Fraud Detection

DATA REFINERY FLOW NAME

AutoInsClaims.csv_flow

Enter a description of the Data Refinery flow

STEPS

34

DATA REFINERY FLOW OUTPUT

Location

SOURCE FILE: AutoInsClaims.csv SAMPLE SIZE: First 975 rows

8. Similarly do for expiry_date column and name the new column as (expiry_days).

Operation + Code an operation to cleanse and shape your data

Data Profile Visualizations

	DRIVERS_LICE...	DATE_AT_CURR...	COMMUTE_DIS...	loss_event_days	Expiry_days
	Date	Date	Integer	Decimal	Decimal
1	2018-08-19	1999-04-16	0	115	262
2	2018-01-27	2011-06-09	0	238	165
3	2019-11-19	2005-05-21	0	7	236
4	2019-05-16	2000-03-11	0	346	206
5	2020-07-06	2012-07-04	0	157	7
6	2021-09-26	2001-07-15	0	65	15
7	2019-05-10	2004-04-08	0	225	189
8	2019-04-26	1999-02-02	0	41	223
9	2021-04-15	2005-03-07	0	47	286
10	2019-08-07	2012-03-04	0	363	174
11	2019-07-02	2017-05-03	0	224	104
12	2018-03-29	2008-07-06	0	211	53
13	2018-04-01	2012-05-15	0	53	10
14	2019-07-13	2007-01-14	0	37	155

SOURCE FILE: AutoInsClaims.csv SAMPLE SIZE: First 975 rows

28 Steps

- Data Source
- AutoInsClaims.csv
- Convert column type
- Automatically converted one or more columns to inferred data types. Strings that are converted to decimal use a dot (.) for the decimal symbol.
- Remove
- Removed HOUSEHOLD_ID
- Remove
- Removed DRIVER_ID
- Remove

->After Saving

IBM Cloud Pak for Data

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation + Code an operation to cleanse and shape your data

Data Profile Visualizations

	COMMUTE_DIS...	LOSS_EVENT_D...	EXPIRY_DAYS	Suspicious_Cla...	Suspicious_Cla...	Days_of_L_Expiry	Excessive_Cla...
	Integer	Decimal	Decimal	Decimal	Integer	Integer	Integer
1	0	115	262	147	0	0	1
2	0	238	165	-73	1	1	0
3	0	7	236	229	0	0	1
4	0	346	206	-140	1	0	1
5	0	157	7	-150	1	0	0
6	0	65	15	-50	1	0	0
7	0	225	189	-36	1	0	0
8	0	41	223	182	0	0	0
9	0	47	286	239	0	0	0
10	0	363	174	-189	1	0	0
11	0	224	104	-120	1	0	0
12	0	211	53	-158	1	1	1
13	0	53	10	-53	1	0	0

Information

Details Help

Edit

LOCATION

Fraud Detection

DATA REFINERY FLOW NAME

AutoInsClaims.csv_flow

Enter a description of the Data Refinery flow

STEPS

34

DATA REFINERY FLOW OUTPUT

Location

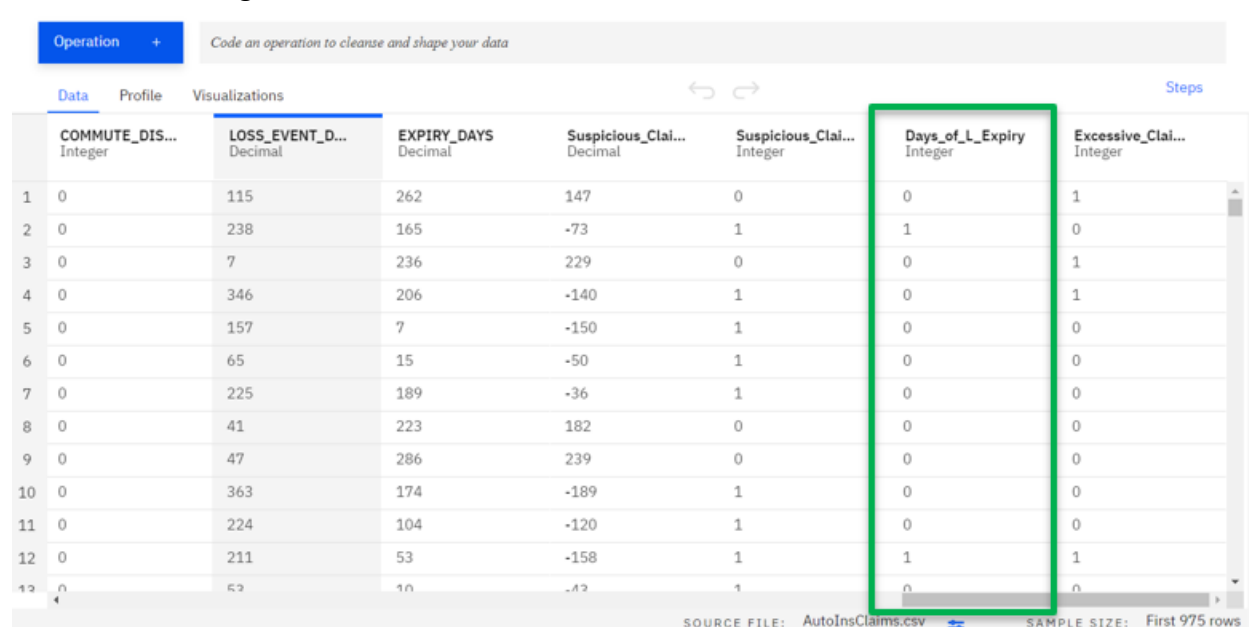
SOURCE FILE: AutoInsClaims.csv SAMPLE SIZE: First 975 rows

2. Claim filed after the license expiration date

This hypothesis tells if the claim for the car was filled till the validity of driver's license, or if it was filed after the expiration of driver's license. Steps for the hypothesis-

- Select driver_license_expiry column and add mutate operation. Select code Mutate (provide_new_column='<column>'<operator>'<column>').
Provide_new_column = days_from_license_expiry
Column = loss_event_time
Operator = >
Column = driver_license_expiry
Apply. You will receive output in Boolean. Convert the Boolean type into Integer type.

->After Converting



	COMMUTE_DIS... Integer	LOSS_EVENT_D... Decimal	EXPIRY_DAYS Decimal	Suspicious_Clai... Decimal	Suspicious_Clai... Integer	Days_of_L_Expire Integer	Excessive_Clai... Integer
1	0	115	262	147	0	0	1
2	0	238	165	-73	1	1	0
3	0	7	236	229	0	0	1
4	0	346	206	-140	1	0	1
5	0	157	7	-150	1	0	0
6	0	65	15	-50	1	0	0
7	0	225	189	-36	1	0	0
8	0	41	223	182	0	0	0
9	0	47	286	239	0	0	0
10	0	363	174	-189	1	0	0
11	0	224	104	-120	1	0	0
12	0	211	53	-158	1	1	1
13	0	52	10	-12	1	0	0

3. Excessive claim amount, which is over \$10000 in value

This hypothesis says that the car accidents who claim for over \$10000 will not be given the entire claim amount. But the claims under \$10000 will be fully claimed. Steps for the hypothesis-

- Select claim_amount column and select calculate operator. Select the greater than operator and enter the value as 10000. Create a new column with column name as (excessive_claim_amount).
- Convert the column into Integer type of data from Boolean type.

IBM Cloud Pak for Data | All | Search | Upgrade | Akshita Kanther's Account | All

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation × Code an operation to cleanse and shape your data

Search operations

FREQUENTLY USED

- Calculate
- Convert column type
- Filter
- Math
- Remove
- Rename
- Sort ascending
- Sort descending
- Substitute
- Text

CLEANSE

- Convert column value to missing

CLAIM_AMOUNT
Decimal

35765
1909
25730
40880
2130
1970
2290
2990
1170
2090
2130
33040
2400

SOURCE FILE: AutoInsClaims.csv | SAMPLE SIZE: First 975 rows

Information ×

Details Help

Edit

LOCATION
Fraud Detection

DATA REFINERY FLOW NAME
AutoInsClaims.csv_flow
Enter a description of the Data Refinery flow

STEPS
34

DATA REFINERY FLOW OUTPUT

IBM Cloud Pak for Data | All | Search | Upgrade | Akshita Kanther's Account | All

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation × Code an operation to cleanse and shape your data

< Calculate Steps

Change column selection

Perform a calculation with another column or with a specified value.

Is greater than

Choose to specify value or a column
☒ Value ☐ Column

10000

☒ Create new column for results ⓘ

Excessive_Claim_Amount

CLAIM_AMOUNT
Decimal

35765
1909
25730
40880
2130
1970
2290
2990
1170
2090
2130
33040
2400

SOURCE FILE: AutoInsClaims.csv | SAMPLE SIZE: First 975 rows

Cancel Apply

Information ×

Details Help

Edit

LOCATION
Fraud Detection

DATA REFINERY FLOW NAME
AutoInsClaims.csv_flow
Enter a description of the Data Refinery flow

STEPS
34

DATA REFINERY FLOW OUTPUT

->After converting from boolean to integer

IBM Cloud Pak for Data | All | Search | Upgrade | Akshita Kanther's Account | All

Projects / Fraud Detection / AutoInsClaims.csv_flow

Operation + Code an operation to cleanse and shape your data

Data Profile Visualizations Steps

	COMMUTE_DIS...	LOSS_EVENT_D...	EXPIRY_DAYS	Suspicious_Cla...	Suspicious_Cla...	Days_of_L_Expiry	Excessive_Cla...
	Integer	Decimal	Decimal	Decimal	Integer	Integer	Integer
1	0	115	262	147	0	0	1
2	0	238	165	-73	1	1	0
3	0	7	236	229	0	0	1
4	0	346	206	-140	1	0	1
5	0	157	7	-150	1	0	0
6	0	65	15	-50	1	0	0
7	0	225	189	-36	1	0	0
8	0	41	223	182	0	0	0
9	0	47	286	239	0	0	0
10	0	363	174	-189	1	0	0
11	0	224	104	-120	1	0	0
12	0	211	53	-158	1	1	1
13	0	63	10	-43	1	0	0

SOURCE FILE: AutoInsClaims.csv | SAMPLE SIZE: First 975 rows

Information ×

Details Help

Edit

LOCATION
Fraud Detection

DATA REFINERY FLOW NAME
AutoInsClaims.csv_flow
Enter a description of the Data Refinery flow

STEPS
34

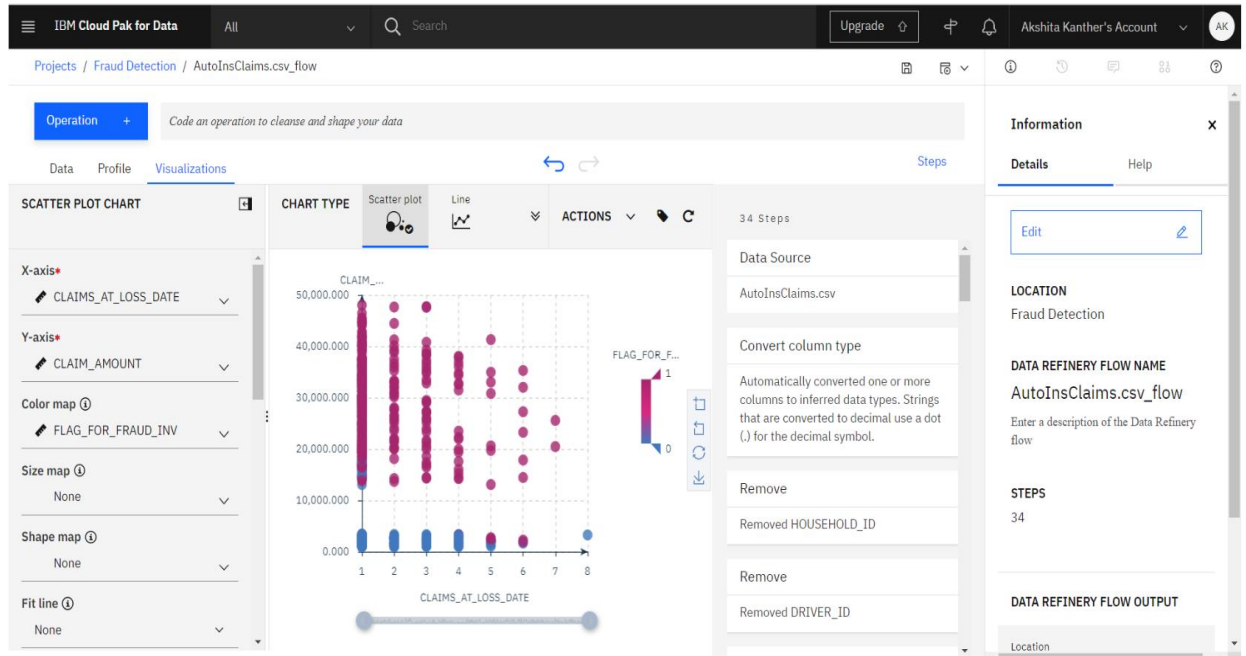
DATA REFINERY FLOW OUTPUT

4. Data Refinery Visualization-

From the Data Refinery flow,click the **Visualization** tab.

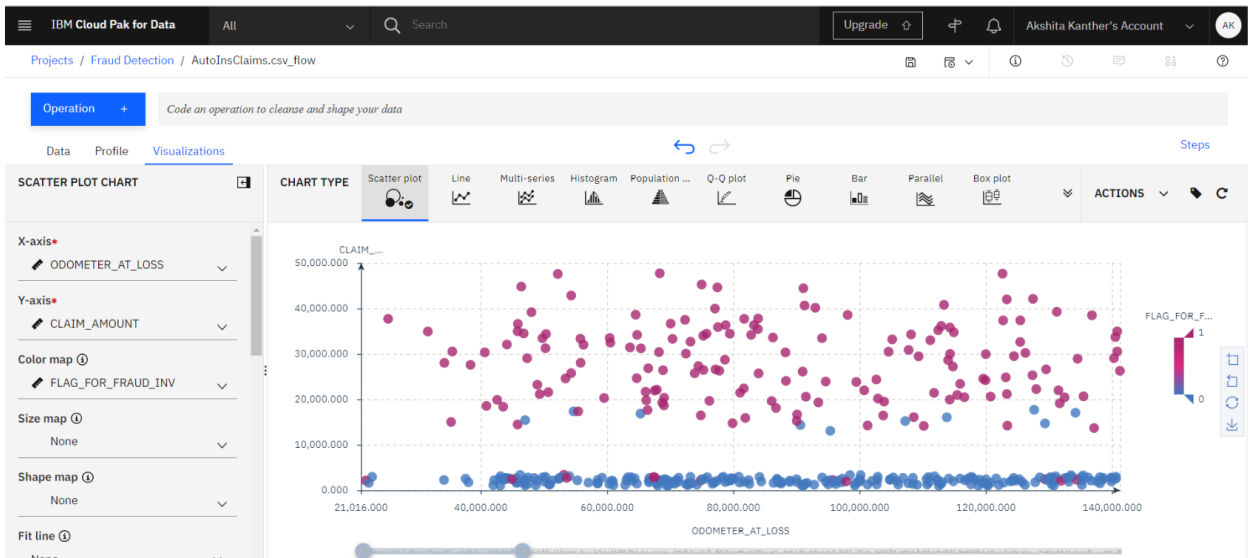
1. CLAIM_AT_LOSS_DATE

Select the scatter plot and for the X-axis select CLAIMS_AT_LOSS_DATE, for the Y-axis select CLAIM_AMOUNT and for the Color map, select FLAG_FOR_FRAUD_INV.



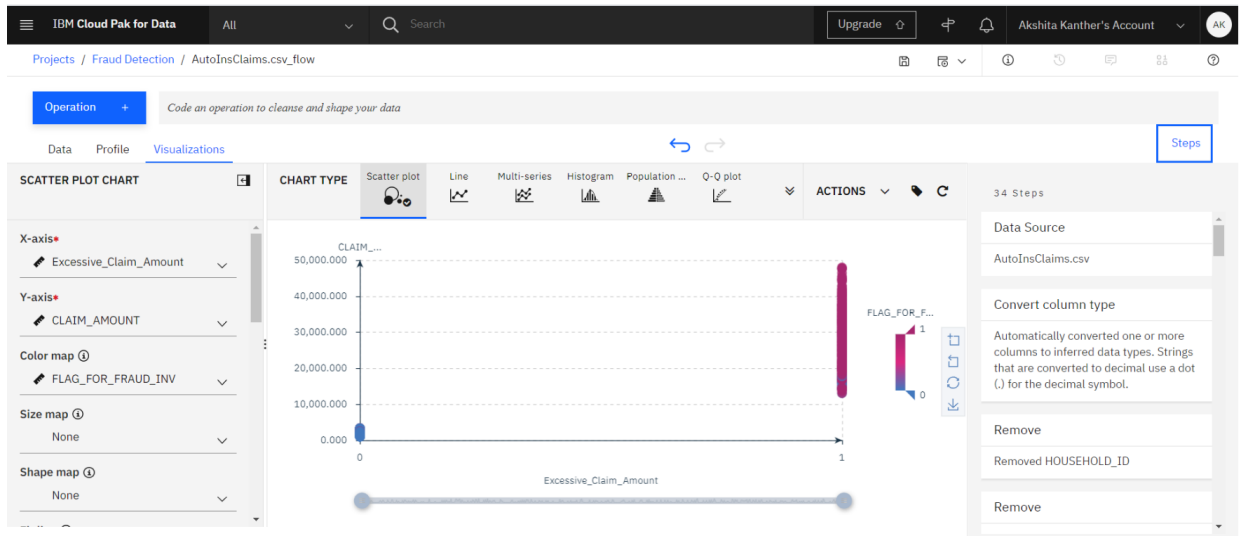
2. ODOMETER_AT_LOSS

Select the scatter plot and for the X-axis select ODOMETER_AT_LOSS, for the Y-axis select CLAIM_AMOUNT and for the Color map, select FLAG_FOR_FRAUD_INV.



3. EXCESSIVE CLAIM AMOUNT

Change the X-axis to EXCESSIVE_CLAIM_AMOUNT and keep the remaining parameters the same.



7. Observations/Discussions (For applied/experimental sciences/materials-based labs): After conducting the above practical, we came to know about the IBM Watson service. We were able to generate the hypothesis3(Visualization) for our data analysis according to the requirement of the customer.

Learning outcomes (What I have learnt): After conducting the practical, we now know how to work on IBM Cloud and its Watson service. We came to know how to work on a data set, how to clean the data and analyse the data.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			