

**CONVERSATIONAL AI PROJECT: ACCELERATED DATA
SCIENCE [BASICS]-UCS546-2324 ODD SEM**

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Credit Card Complaints Detection

In Python, a credit card complaint project can be developed to analyze and categorize consumer complaints related to credit cards, identify patterns and trends in the complaint data, and provide insights to credit card companies for improving customer service.

DataSetlink:-https://drive.google.com/file/d/1HlMpGeYqzI2y8PigM_XaKgBAFdQZ31iM/view?usp=sharing

DataSet Description (Total rows 86893,columns 25)

S.NO	COLUMNS	DESCRIPTION
1	Company	Name
2	Company_public_response	Public Response
3	Company_response_to_consumer	Response to Consumer
4	Complaint_Category	Category
5	Complaint_ID	ID
6	Consumer_complaint_narrative	Narrative
7	Consumer_consent_provided?	Consent Provided
8	Consumer_consent_provided? (group)	Consent Group
9	Consumer_disputed?	Disputed
10	Date_received	Received Date
11	Date_sent_to_company2	Sent to company Date
12	Date_sent_to_company2	Dimensions
13-17	Issue,product,State,Sub issue,Sub Product	Issue,product,State,Sub issue,Sub Product
18-20	Submitted Via,Table name, Tags	Submitted Via,Table name, Tags
21	Timely_response?	Timely Response of Complaints
22	ZIP_code	Zip Code of Credit Card
23	Avg_No_of_days	Number of Days
24	donut	Donut
25	Number_of_Records	Records Count

Data Preprocessing

Code link:-

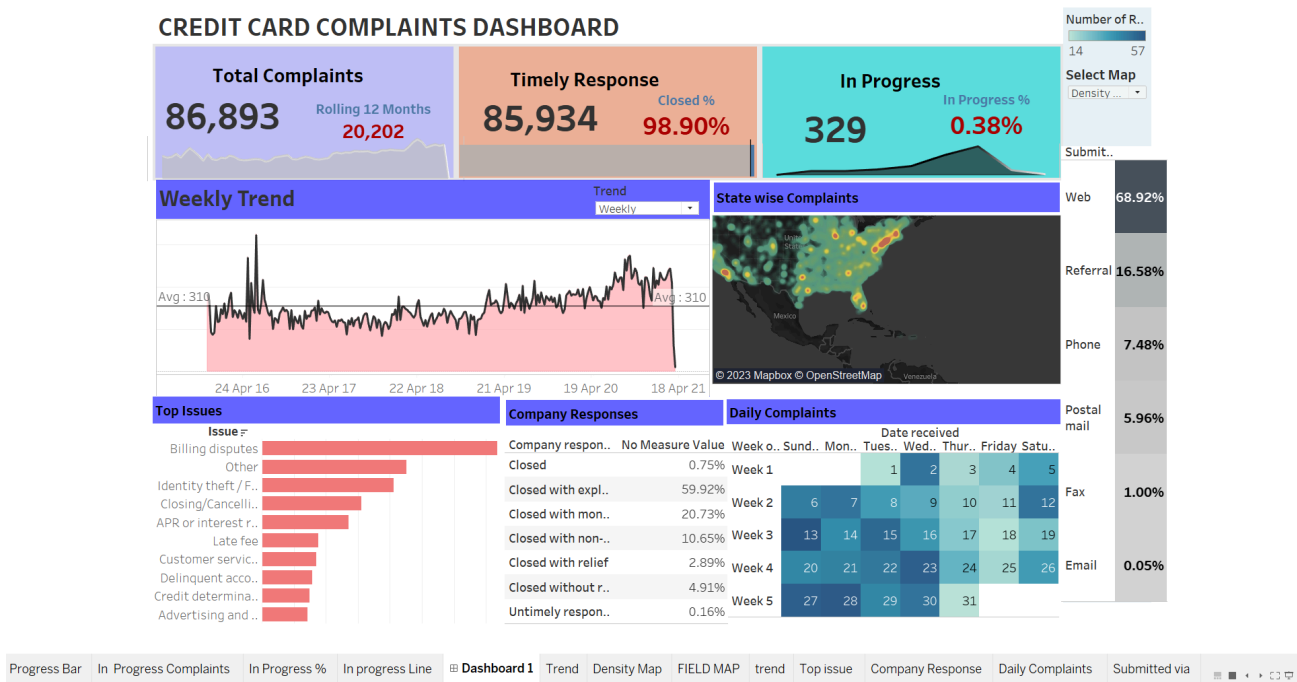
<https://colab.research.google.com/drive/18-qJMqfn3KlN7YV-tvLtLwZuz7-dZgGS?usp=sharing>

Techniques Used

- 1.Handle missing values,replace missing values with 0.0 or mean
- 2.Feature Engineering.
- 3.Saved the process in new csv file,load preprocessed data , print.
4. Data Cleaning , Remove Duplicate rows.
- 5.Remove Outliers.
- 6.Remove Special characters and whitespace from categorical columns.
- 7.Correct datatype.
- 8.Saved the cleaned data to new file.
- 9.Data reduction with handling missing values.
- 10.Perform Dimensionality Reduction Using PCA(principal component Analysis).
- 11.Data transformation ,Convert categorical columns to numerical using label encoding.
- 12.Binning Method
- Clustering to identify and handle noisy data.
- 13.Tried Gradient boost and Random forest to compare Result.

Dashboard screenshots for Credit Card Complaints :

Complete Dashboard :

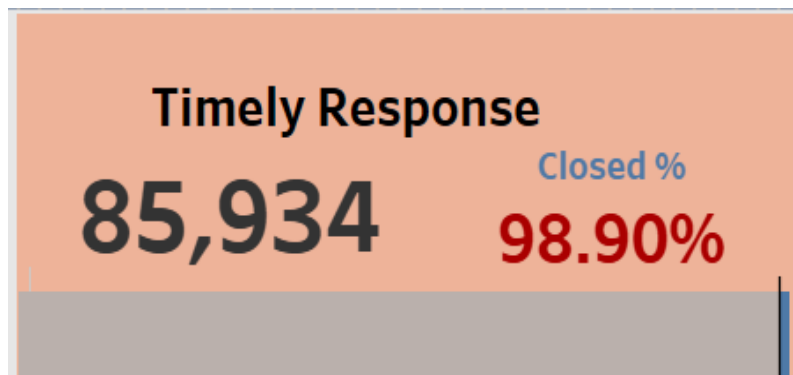


KPI's

1. Total complaints and sparkling graph :



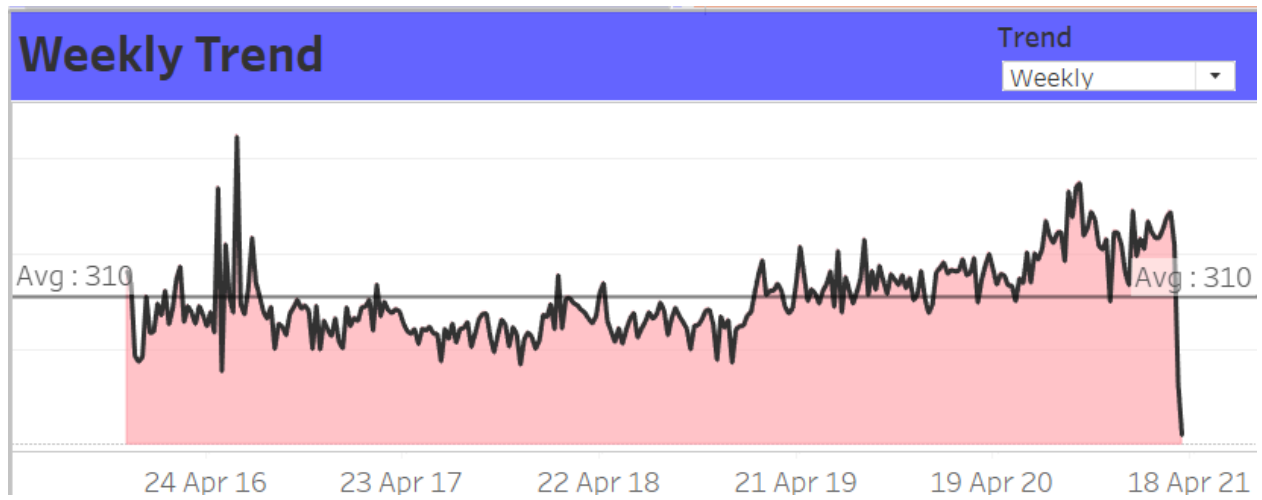
2. Timely response and bar graph



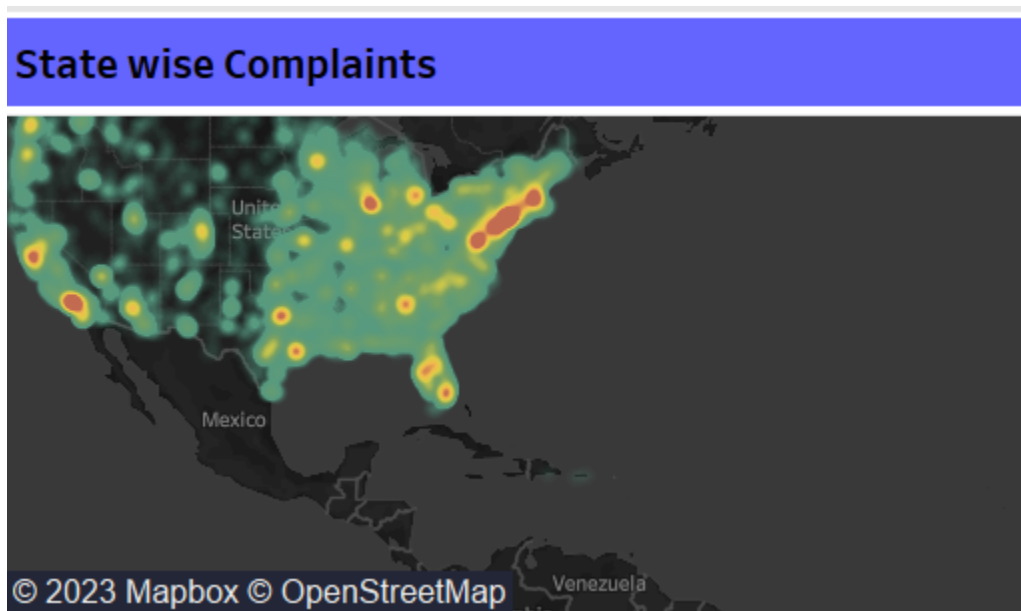
3. In Progress



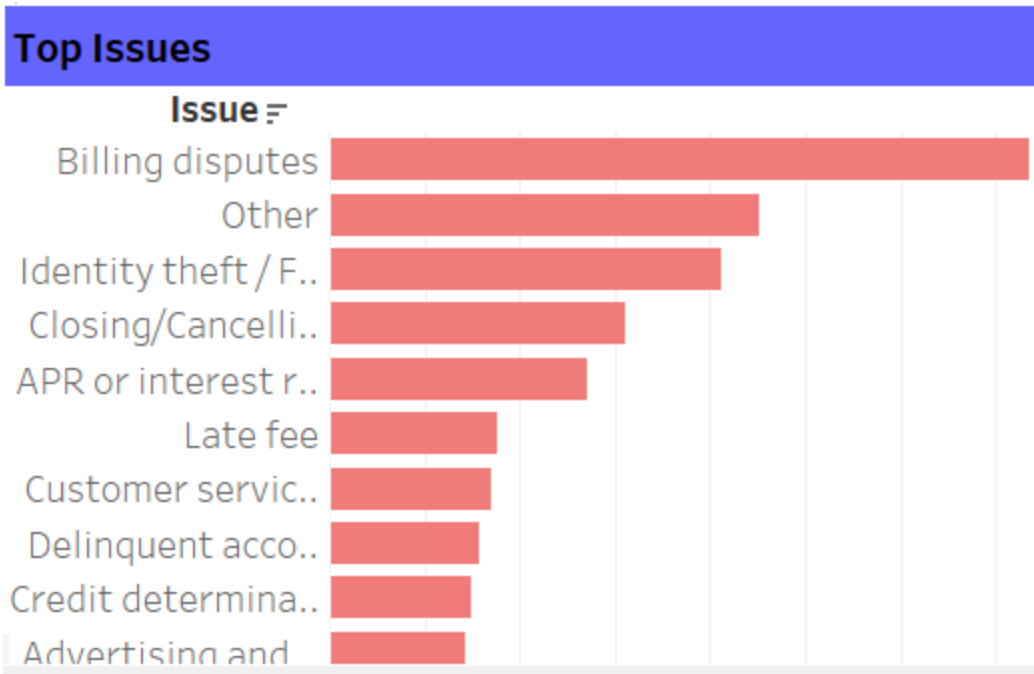
Weekly Trend



State wise Complaints



Top Issues



Company Responses

Company Responses

Company respon..	No Measure Value
Closed	0.75%
Closed with expl..	59.92%
Closed with mon..	20.73%
Closed with non-..	10.65%
Closed with relief	2.89%
Closed without r..	4.91%
Untimely respon..	0.16%

Daily Complaints

Daily Complaints							
		Date received					
Week o..	Sund..	Mon..	Tues..	Wed..	Thur..	Friday	Satu..
Week 1			1	2	3	4	5
Week 2	6	7	8	9	10	11	12
Week 3	13	14	15	16	17	18	19
Week 4	20	21	22	23	24	25	26
Week 5	27	28	29	30	31		

Submitted Via

Submit..	
Web	68.92%
Referral	16.58%
Phone	7.48%
Postal mail	5.96%
Fax	1.00%
Email	0.05%