

# **CREDIT CARD LIMIT PREDICTION & IDENTIFYING THE DRIVERS FOR THE SPEND**



# Problem statement

Banks would like to understand what factors are driving credit card spend and they want to use these insights to calculate credit limit.



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# Solution approach



## Data preparation

Python, DB



## Data analysis

Outlier treatment with  
mean value imputation,  
Correlation,



## Model building

Linear regression



**Outcome**

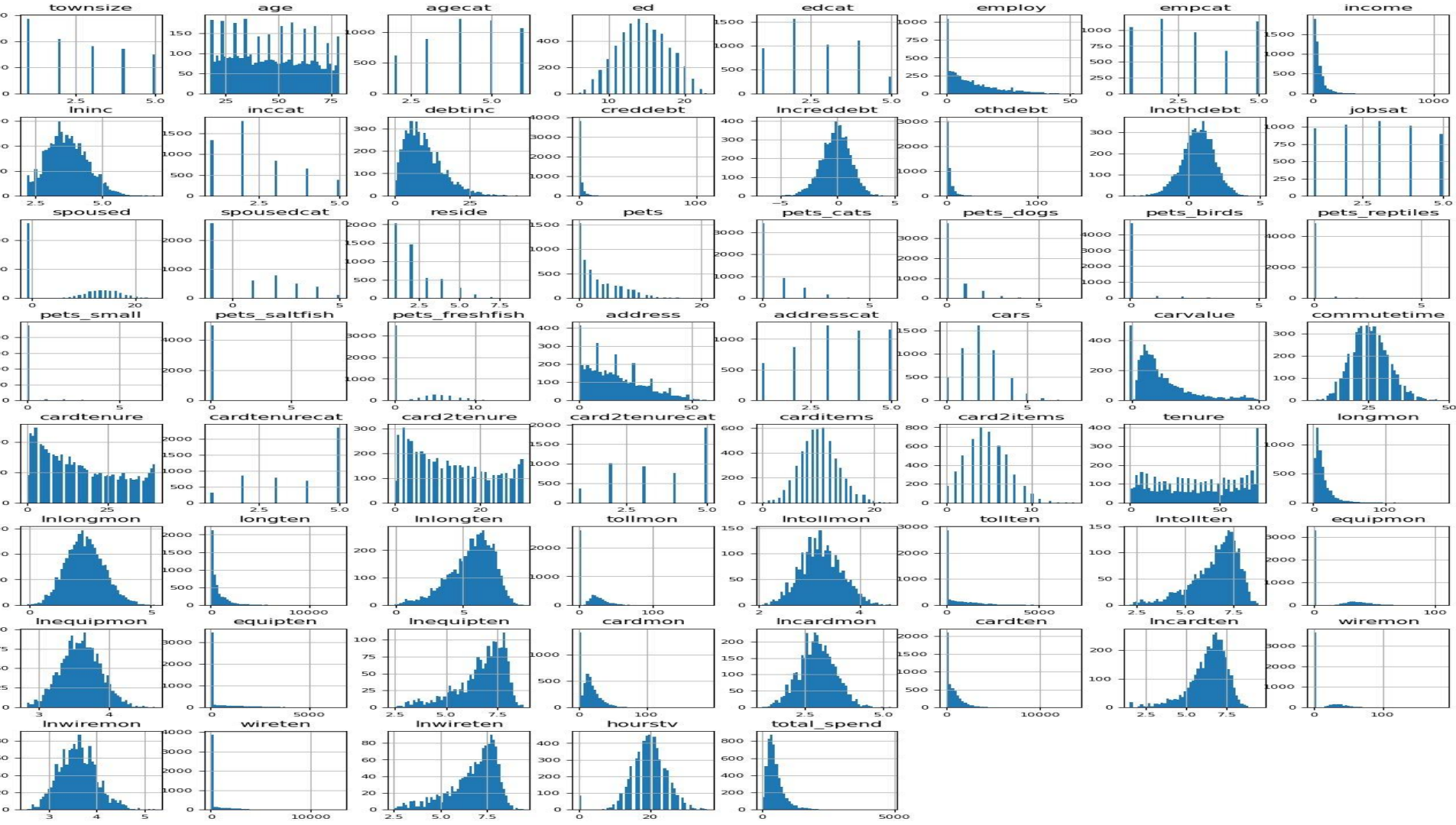
# Insights - based on univariate analysis

- There are no duplicates and each row corresponds to a single customer
- We have 4886 unique values for total credit spend
- Data is equally distributed over 5 regions with nearly 20% population in each
- The distribution of gender is almost 50% each which is in line with the global trend
- Age ranges from 18 to 79
- Years of education ranges from 6 to 23
- Only 4262 people are currently working and not retired
- Income ranges from 9 to 1073 with an average of 54.7

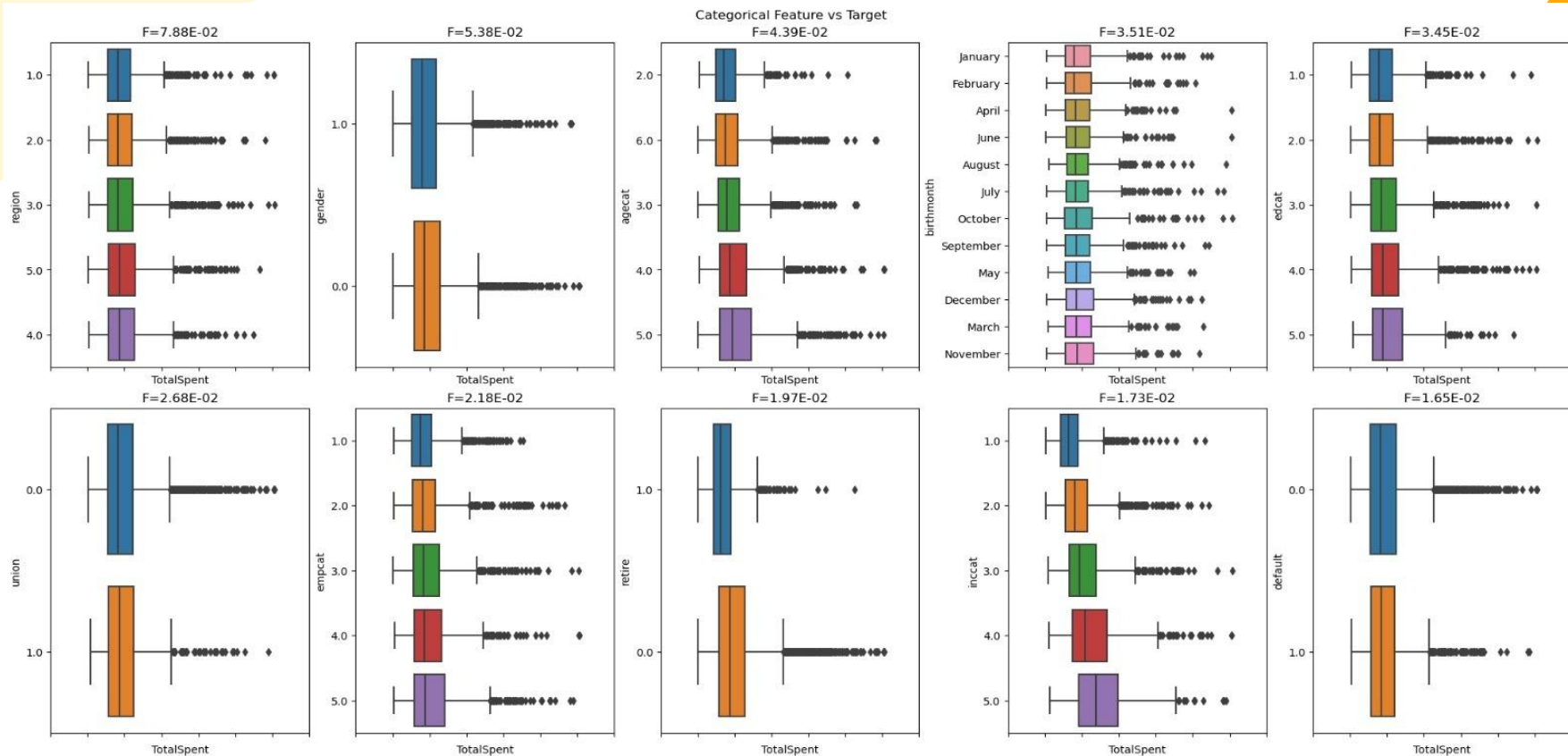


# Data Visualisation



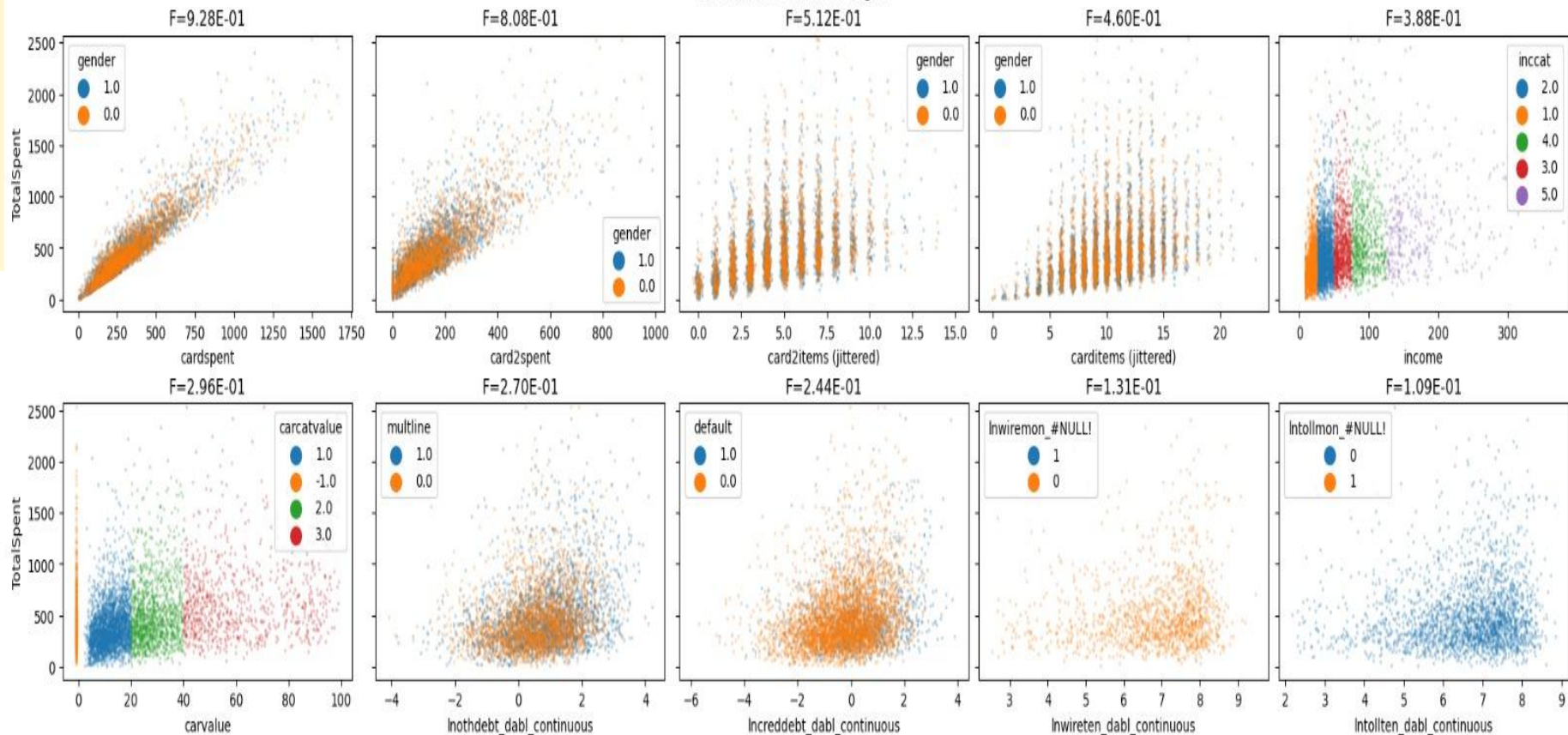


# Bivariate analysis

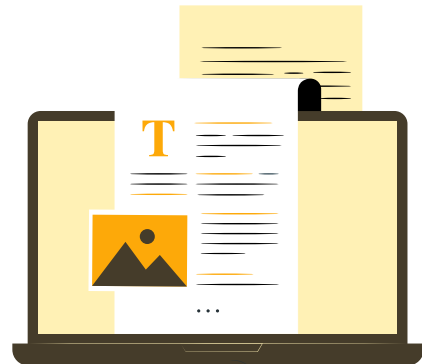




# Continuous Feature vs Target



	Variable	Chi-square	p-value
0	townsize	4.779933e+04	0.999880
1	birthmonth	5.387085e+04	0.454490
2	Increddebt	5.131581e+06	0.202320
3	Inothdebt	4.691664e+06	0.708419
4	commutetime	3.816340e+05	0.544339
5	longten	2.242972e+07	0.469005
6	Inlongten	5.840083e+06	0.000456
7	Intollmon	8.650817e+05	0.002227
8	Intollten	2.474691e+06	0.000131
9	Inequipmon	7.445701e+05	0.999717
10	Inequipten	2.193563e+06	0.002257
11	Incardmon	1.046375e+06	0.999972
12	cardten	4.899354e+06	0.441555
13	Incardten	1.806941e+06	0.289330
14	Inwiremon	9.170928e+05	0.078563
15	Inwireten	2.238282e+06	0.000875



# Insights

- Non-Union members spend a little more than Union members
- Retired customers tend to spend less
- Credit spent on cards decreases with increase in number of years of service with the same employer
- Customers with "High" Debt to income ratio (%) spent a lot less as compared to those with "low" Debt to income ratio (%)
- Customers with low credit card debt spent more as compared to those with high debt
- Customers who did not receive any product offers spend more as compared to those who received offers
- Customers with 13-17 years of education spend more on their credit cards as compared to those with less or more years of education
- Customers with less number of people in household tend to spend more, specially customers who were alone
- Customer with less number of cars tend to spend more
- Customers who were not being charged card fee were found to be spending more
- Customers who did not receive any product offers spend more as compared to those who received offers

## **From Linear Regression , the important factors driving the total spend are:**

- People who are under employ union tend to spend more than people not under union.
- People who have high level of job satisfaction and in union tend to spend more.
- People in age category of 4 and 5 and in Union tend to spend more than compared to rest.
- People with higher education tend to spend more.
- People who have put more years working with current employer tend to spend more.
- Retired customers spend less compare to others.
- Spending increases as income increase proportionally.
- People with less job satisfaction tend to spend more than the others.

The background features two large, soft-edged, organic shapes in a pale yellow color. One shape is on the left, curving upwards and to the right. The other is on the top right, curving downwards and to the left. They are set against a light gray background.

**Thank you!!**