

Lending Club Case Study

SUBMISSION

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Business Objectives

To understand the **driving factors (or driver variables)** behind loan default, i.e. the variables which are strong indicators of default. The company can utilize this knowledge for its portfolio and risk assessment.

Data Understanding

Types of Variables

- Applicant Demographic
- Loan Related information
- Applicant's Transaction History (DTI, Loan Status etc.

Customer's Demographics

Employment Length

Employment title

Annual Income

Zip Code

Description

Loan Information & Characteristics

Loan Amount

Funded Amount

Funded Amount Investment

Interest Rate

Loan Status

Laon Grade

Customer Behaviour variables

Delinquency year -2

earliest credit line

Revolving balance

Recoveries

Application type

Loan purpose

Data Cleaning & Preparing

Removed all unwanted rows and columns.

	id	member_id	loan_amnt	funded_amnt	funded_amnt_inv	term	int_rate	installment	grade	sub_grade	...	num_tl_90g_dpd_24m	num_tl_op_past
0	1077501	1296599	5000	5000	4975.0	36 months	10.65%	162.87	B	B2	...	NaN	
1	1077430	1314167	2500	2500	2500.0	60 months	15.27%	59.83	C	C4	...	NaN	
2	1077175	1313524	2400	2400	2400.0	36 months	15.96%	84.33	C	C5	...	NaN	
3	1076863	1277178	10000	10000	10000.0	36 months	13.49%	339.31	C	C1	...	NaN	
4	1075358	1311748	3000	3000	3000.0	60 months	12.69%	67.79	B	B5	...	NaN	

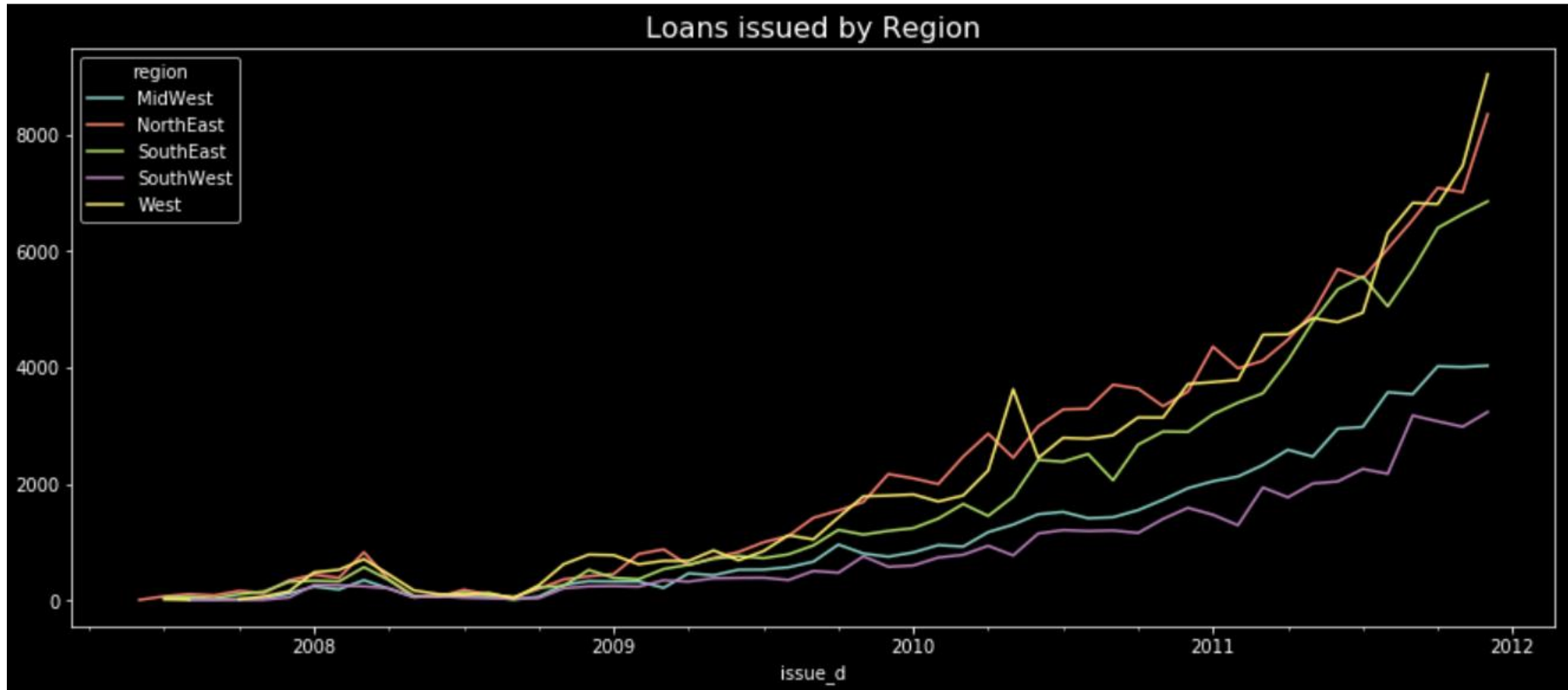
5 rows × 111 columns



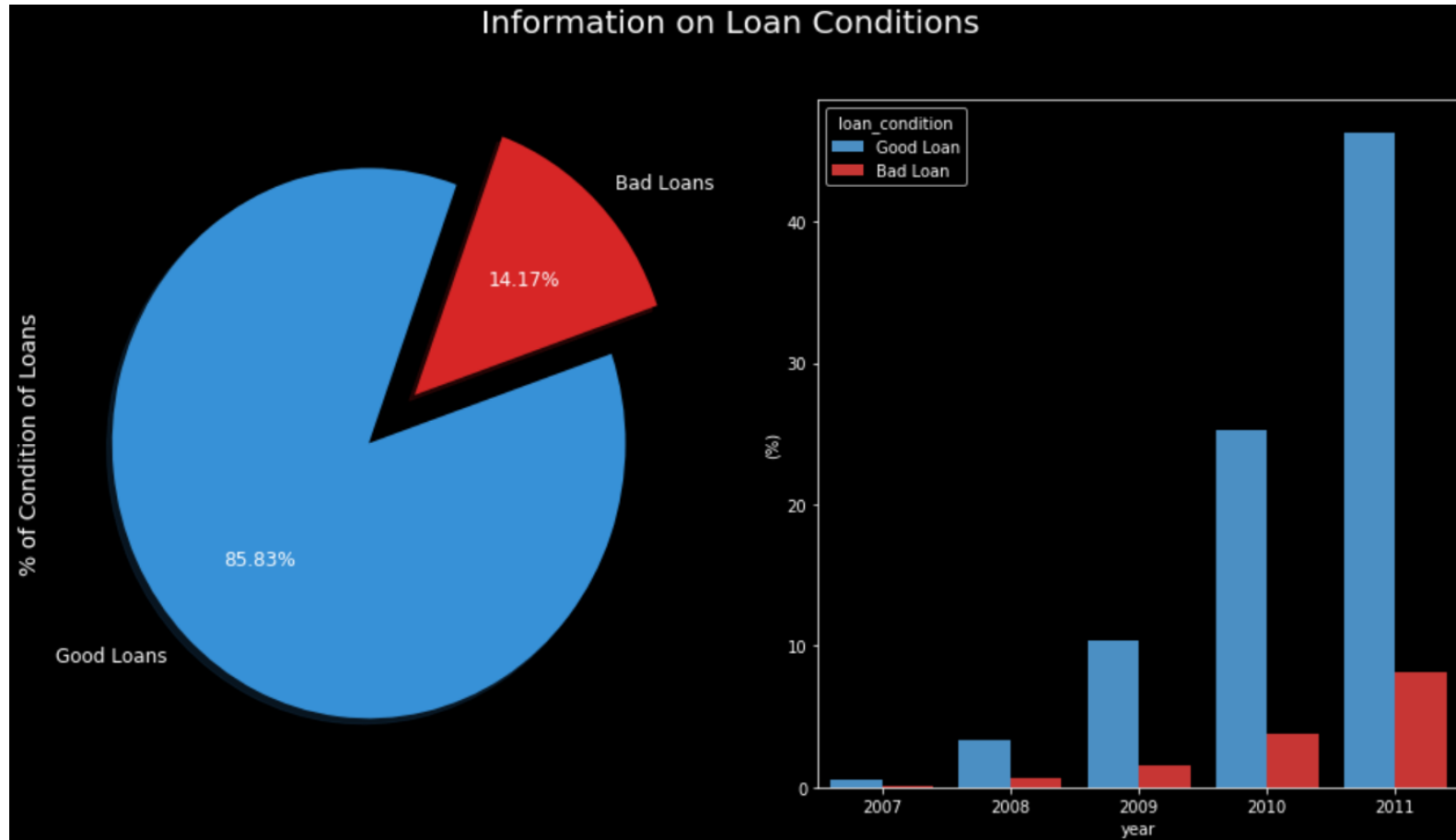
Data Understandings

	id	member_id	loan_amnt	funded_amnt	funded_amnt_inv	installment	annual_inc	dti	delinq_2yrs	inq_last_6mths
count	3.971700e+04	3.971700e+04	39717.000000	39717.000000	39717.000000	39717.000000	3.971700e+04	39717.000000	39717.000000	39717.000000
mean	6.831319e+05	8.504636e+05	11219.443815	10947.713196	10397.448868	324.561922	6.896893e+04	13.315130	0.146512	0.869200
std	2.106941e+05	2.656783e+05	7456.670694	7187.238670	7128.450439	208.874874	6.379377e+04	6.678594	0.491812	1.070219
min	5.473400e+04	7.069900e+04	500.000000	500.000000	0.000000	15.690000	4.000000e+03	0.000000	0.000000	0.000000
25%	5.162210e+05	6.667800e+05	5500.000000	5400.000000	5000.000000	167.020000	4.040400e+04	8.170000	0.000000	0.000000
50%	6.656650e+05	8.508120e+05	10000.000000	9600.000000	8975.000000	280.220000	5.900000e+04	13.400000	0.000000	1.000000
75%	8.377550e+05	1.047339e+06	15000.000000	15000.000000	14400.000000	430.780000	8.230000e+04	18.600000	0.000000	1.000000
max	1.077501e+06	1.314167e+06	35000.000000	35000.000000	35000.000000	1305.190000	6.000000e+06	29.990000	11.000000	8.000000

Data Understanding & Findings

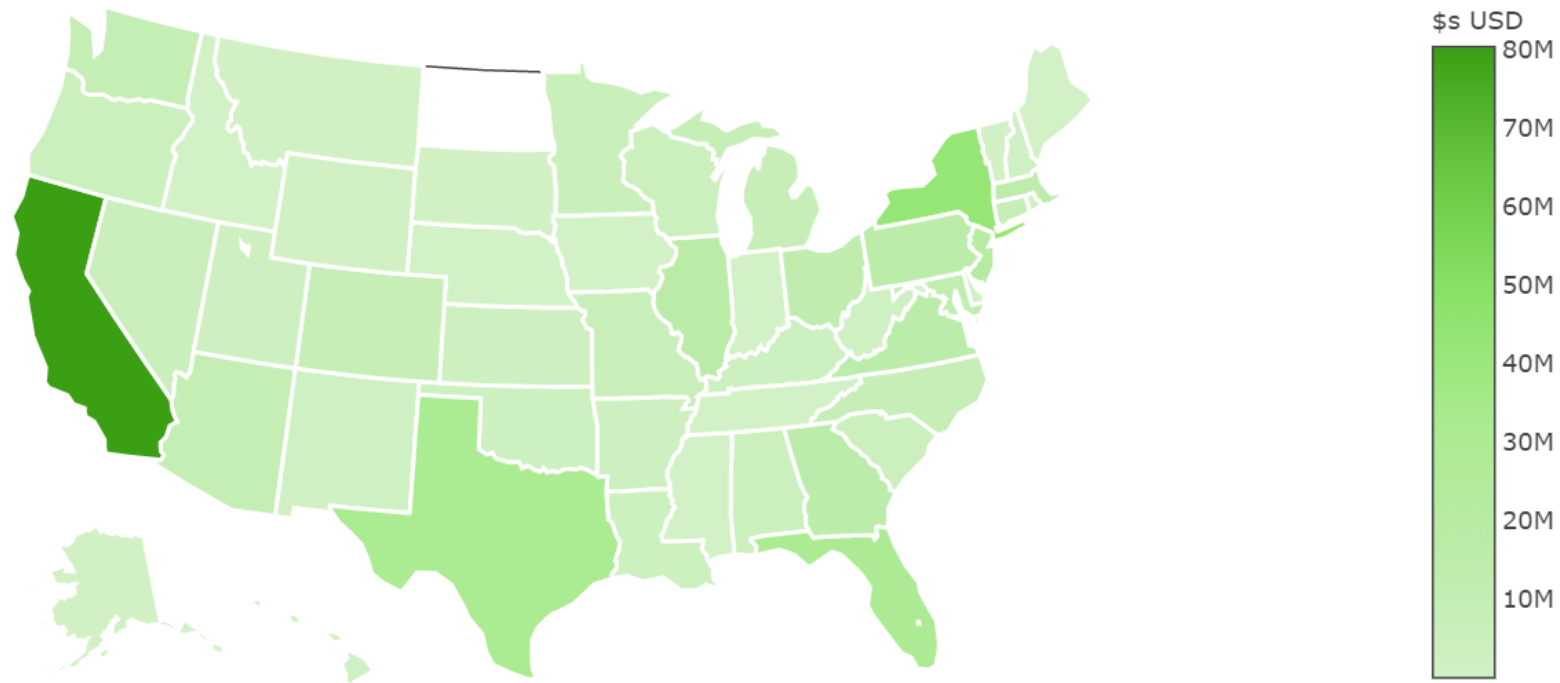


Data Understanding & Findings

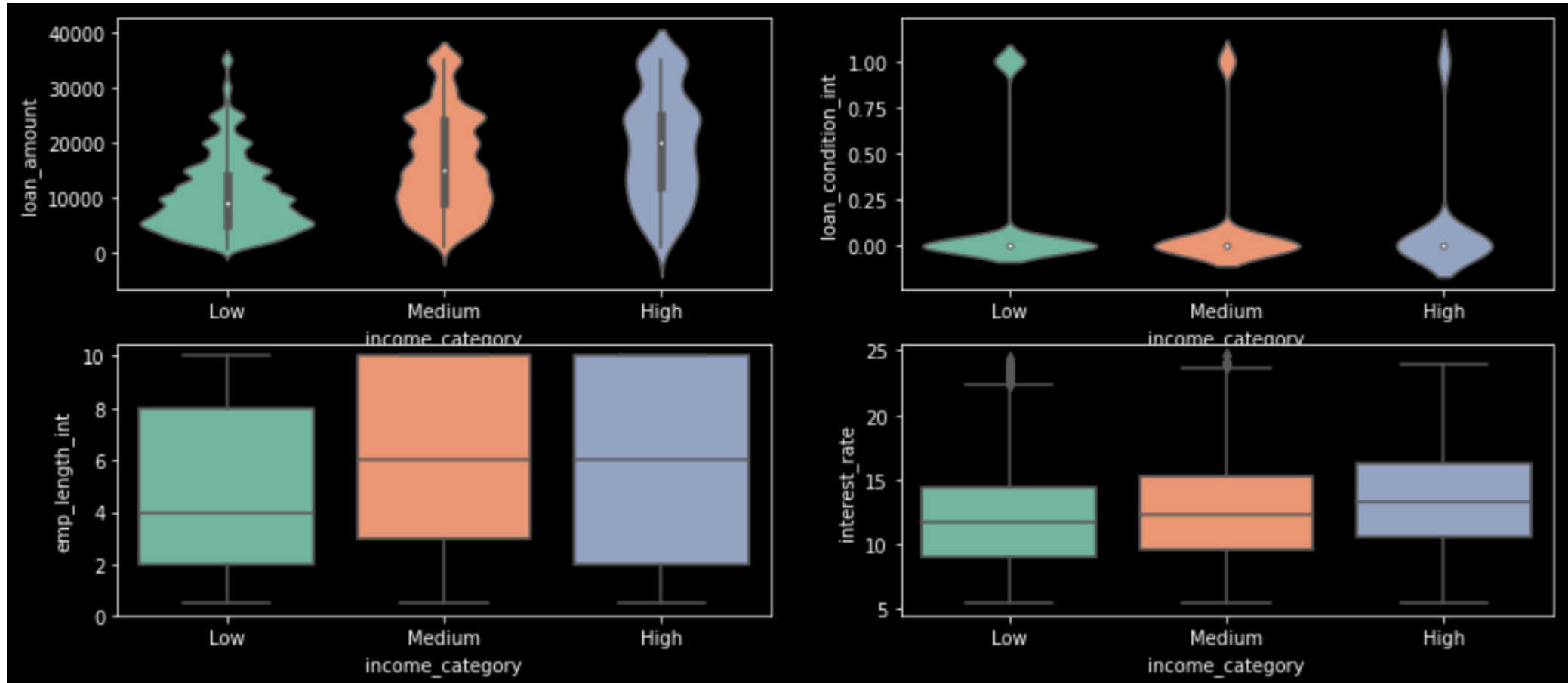


Data Understanding & Findings

Lending Clubs Issued Loans
(A Perspective for the Business Operations)

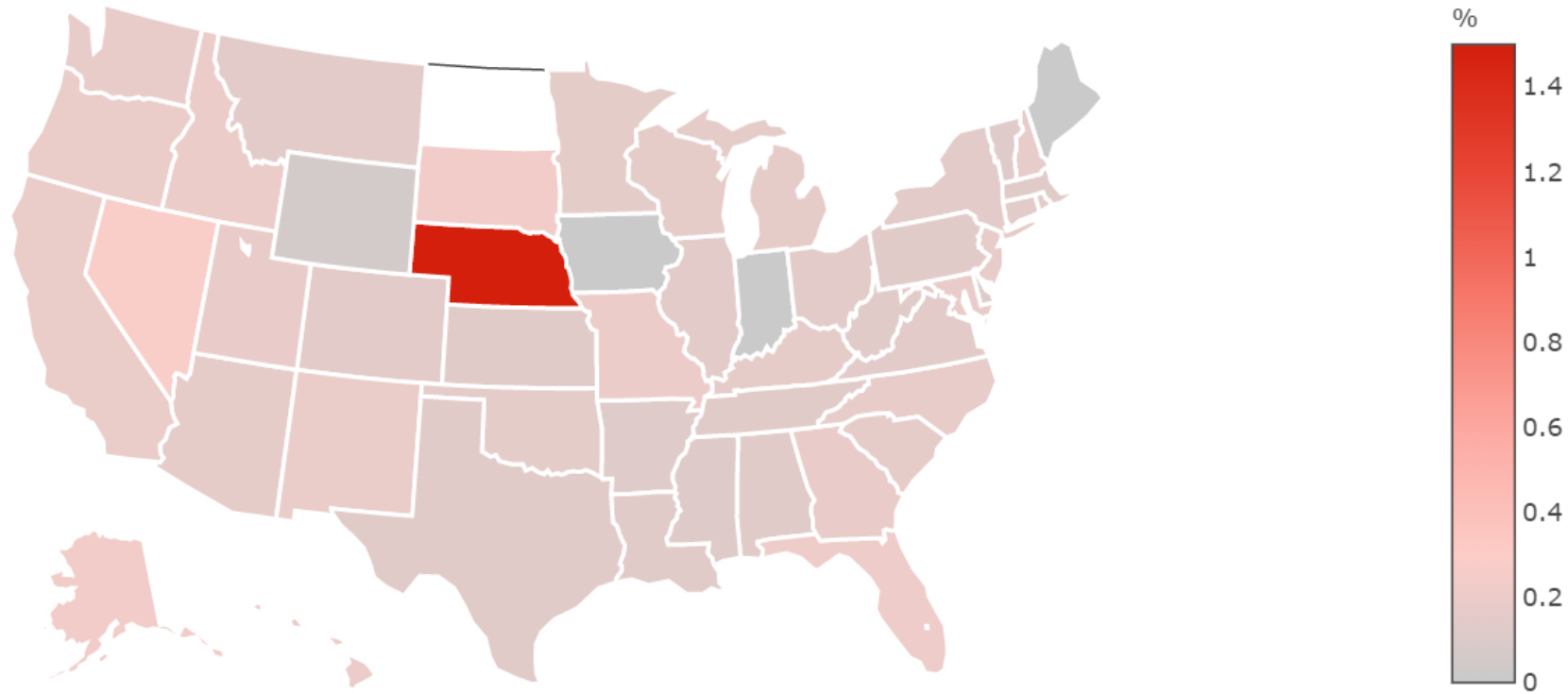


Data Understating & Finding

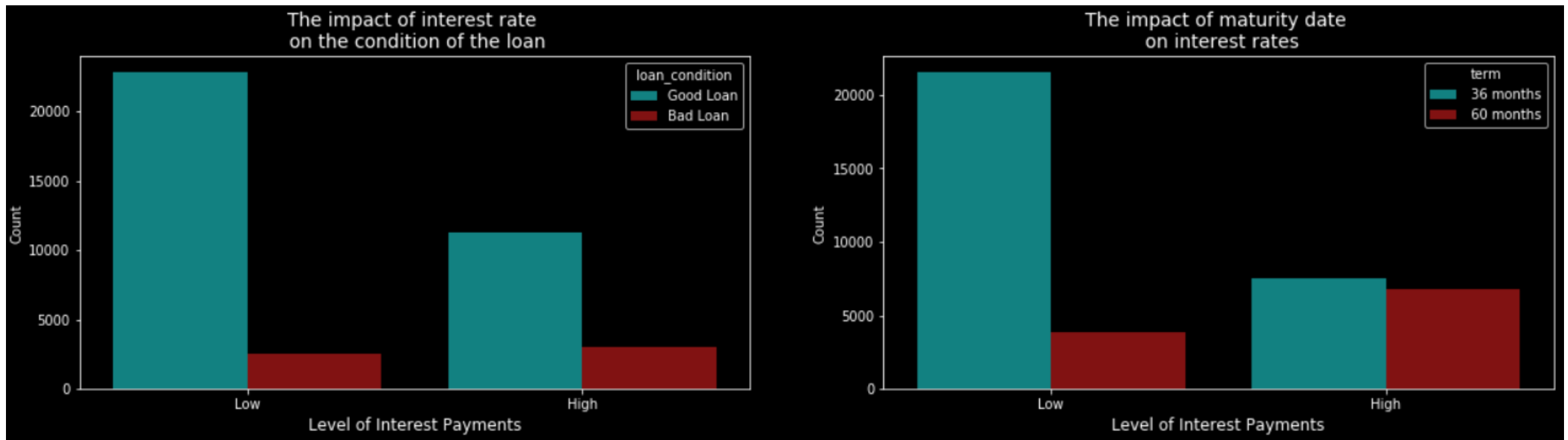


Data Understating & Finding

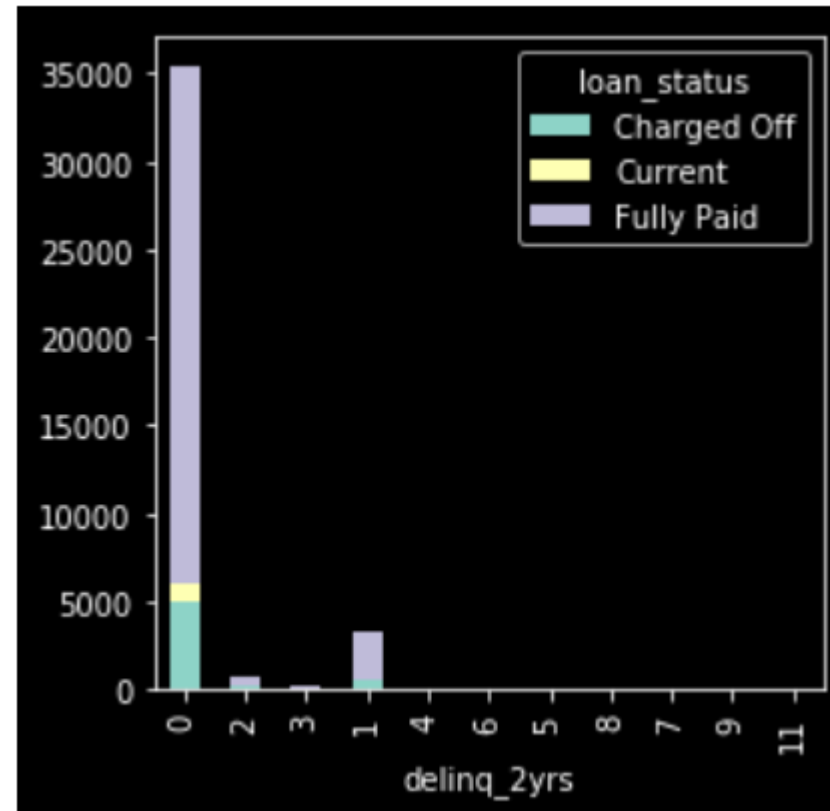
Lending Clubs Default Rates
(Analyzing Risks)



Data Understating & Finding



Data Understating & Finding



Conclusion

These various graphs and analysis created from Univariate & Bivariate analysis will help to understand which region which applicant can be granted loan, based on few key parameters-
like Loan Status , dti, Purpose of the Loan, Loan Amount, Annual income.