Lending Club

Goals and success criteria

- Given loan application details, predict whether Lending Club will reject or approve a loan application
- Determine which are the most important factors in the decision making process

Questions/ Suggestions?

Audience

- Lending Club
  - Is their approval process systematic
  - Can they improve it
- Lending Club customers
  - What is affecting their approval success rate
  - How can they improve their chances of obtaining a loan
- Other lenders
  - Can they learn from Lending Club's process and success rate

Problem Statement

Can we predict whether a loan application will be approved?

Data

- Provided by Lending Club on LINK
  - Includes data for rejected applications and approved applications
  - For approved applications, they also included other data relating to loan repayment

Lending Club

Goals and success criteria

- Given loan application details, predict whether Lending Club will reject or approve a loan application
- Determine which are the most important factors in the decision making process

Questions/ Suggestions?

Audience

- Lending Club
  - Is their approval process systematic
  - Can they improve it
- Lending Club customers
  - What is affecting their approval success rate
  - How can they improve their chances of obtaining a loan
- Other lenders
  - Can they learn from Lending Club's process and success rate

Problem Statement

Can we predict whether a loan application will be approved?

Data

- Provided by Lending Club on LINK
  - Includes data for rejected applications and approved applications
  - For approved applications, they also included other data relating to loan repayment

Problem Statement

Can we predict whether a loan application will be approved?

Goals and success criteria

- Given loan application details, predict whether Lending Club will reject or approve a loan application
- Determine which are the most important factors in the decision making process

Audience

- Lending Club
  - Is their approval process systematic
  - Can they improve it
- Lending Club customers
  - What is affecting their approval success rate
  - How can they improve their chances of obtaining a loan
- Other lenders
  - Can they learn from Lending Club's process and success rate

Data

- Provided by Lending Club on LINK
  - Includes data for rejected applications and approved applications
  - For approved applications, they also included other data relating to loan repayment

```python
reject_df = pd.read_csv('/Users/joce/learning/data_science/lending-club/RejectStatsA.csv',\
                        low_memory=False, skiprows=1)
```
Last executed 2016-10-26 10:23:14 in 1.92s

```python
loan_df = pd.read_csv('/Users/joce/learning/data_science/lending-club/LoanStats3a.csv',\
                      low_memory=False, skiprows=1)
```
Last executed 2016-10-26 10:23:16 in 1.21s

	Amount Requested	Application Date	Loan Title	Risk_Score	Debt-To-Income Ratio	Zip Code	State	Employment Length	Policy Code
0	1000.0	2007-05-26	Wedding Covered but No Honeymoon	693.0	10%	481xx	NM	4 years	0
1	1000.0	2007-05-26	Consolidating Debt	703.0	10%	010xx	MA	< 1 year	0
2	11000.0	2007-05-27	Want to consolidate my debt	715.0	10%	212xx	MD	1 year	0
3	6000.0	2007-05-27	waksman	698.0	38.64%	017xx	MA	< 1 year	0
4	1500.0	2007-05-27	mdrigo	509.0	9.43%	209xx	MD	< 1 year	0

	id	member_id	loan_amnt	funded_amnt	funded_amnt_inv	term	int_rate	installment	grade	sub_grade	...
0	1077501	1296599.0	5000.0	5000.0	4975.0	36 months	10.65%	162.87	B	B2	...
1	1077430	1314167.0	2500.0	2500.0	2500.0	60 months	15.27%	59.83	C	C4	...
2	1077175	1313524.0	2400.0	2400.0	2400.0	36 months	15.96%	84.33	C	C5	...
3	1076863	1277178.0	10000.0	10000.0	10000.0	36 months	13.49%	339.31	C	C1	...
4	1075358	1311748.0	3000.0	3000.0	3000.0	60 months	12.69%	67.79	B	B5	...

Prezi

	LoanStatNew	Description
0	acc_now_delinq	The number of accounts on which the borrower is now delinquent.
1	acc_open_past_24mths	Number of trades opened in past 24 months.
2	addr_state	The state provided by the borrower in the loan application
3	all_util	Balance to credit limit on all trades
4	annual_inc	The self-reported annual income provided by the borrower during registration.
5	annual_inc_joint	The combined self-reported annual income provided by the co-borrowers during registration
6	application_type	Indicates whether the loan is an individual application or a joint application with two co-borrowers
7	avg_cur_bal	Average current balance of all accounts
8	bc_open_to_buy	Total open to buy on revolving bankcards.
9	bc_util	Ratio of total current balance to high credit/credit limit for all bankcard accounts.
10	chargeoff_within_12_mths	Number of charge-offs within 12 months
11	collection_recovery_fee	post charge off collection fee
12	collections_12_mths_ex_med	Number of collections in 12 months excluding medical collections
13	delinq_2yrs	The number of 30+ days past-due incidences of delinquency in the borrower's credit file for the past 2 years
14	delinq_amnt	The past-due amount owed for the accounts on which the borrower is now delinquent.

Lending Club

Goals and success criteria

- Given loan application details, predict whether Lending Club will reject or approve a loan application
- Determine which are the most important factors in the decision making process

Questions/ Suggestions?

Audience

- Lending Club
  - Is their approval process systematic
  - Can they improve it
- Lending Club customers
  - What is affecting their approval success rate
  - How can they improve their chances of obtaining a loan
- Other lenders
  - Can they learn from Lending Club's process and success rate

Problem Statement

Can we predict whether a loan application will be approved?

Data

- Provided by Lending Club on LINK
  - Includes data for rejected applications and approved applications
  - For approved applications, they also included other data relating to loan repayment