

# Lending CLUB Case Study

# Lending Club

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- ▶ LendingClub is a financial services company headquartered in San Francisco, California. It was the first peer-to-peer lender to register its offerings as securities with the Securities and Exchange Commission, and to offer loan trading on a secondary market.
- ▶ LendingClub enabled borrowers to create unsecured personal loans between \$1,000 and \$40,000. The standard loan period was three years. Investors were able to search and browse the loan listings on LendingClub website and select loans that they wanted to invest in based on the information supplied about the borrower, amount of loan, loan grade, and loan purpose. Investors made money from the interest on these loans.
- ▶ LendingClub also makes traditional direct to consumer loans, including automobile refinance transactions. The loans are not funded by investors but are assigned to other financial institutions.

# Business Objective

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- ▶ Run Exploratory Data Analysis on the dataset to infer which are the driving factors of defaulting on loans.

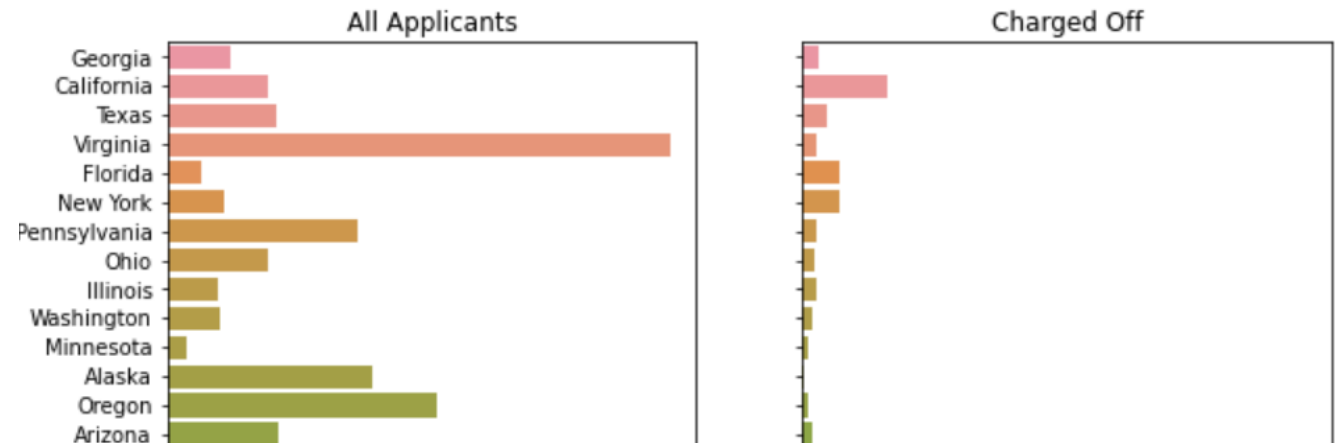
# Driving Factors:

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- ▶ State of Residence of applicant
- ▶ Loan Amount
- ▶ Employment Length
- ▶ Grade and Sub-grade of Loans
- ▶ Home Ownership of applicant
- ▶ Purpose of taking loans
- ▶ Annual Income of applicant

# State of Residence

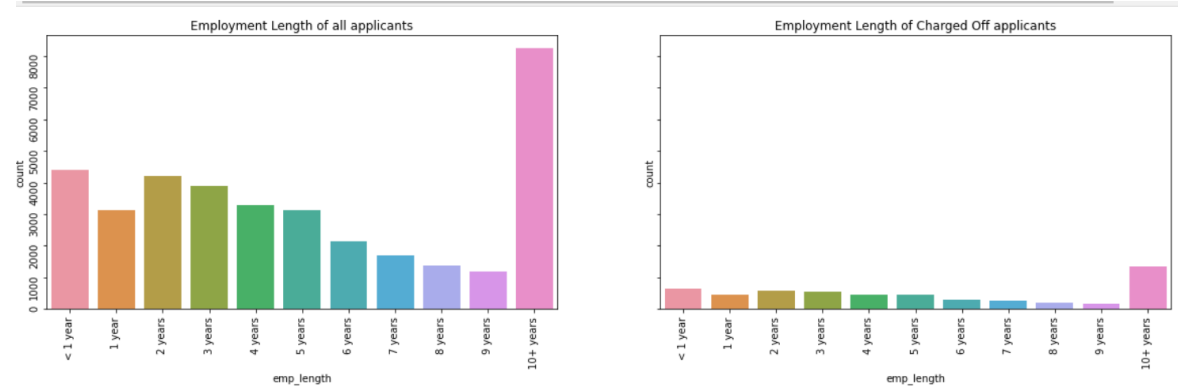
- ▶ It can be seen that most of the applicants seem to be from Virginia.
- ▶ However, most of the charged off applicants are from California.
- ▶ This could be due to the expensive lifestyle and other social reasons.



# Loan Amount

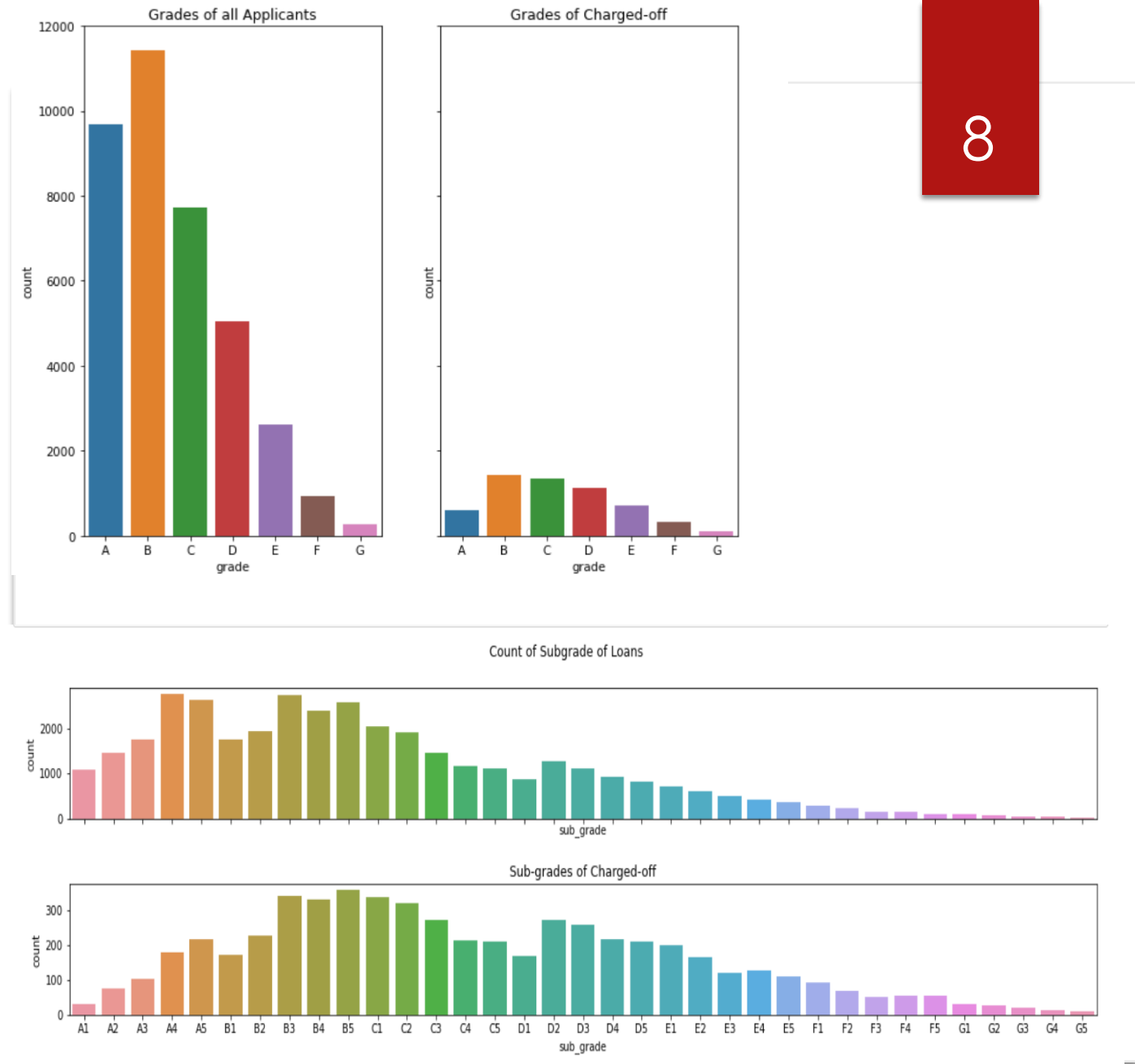
# Employment Length

- ▶ Although it seems that most of the defaulters belong to 10+ years of employment, this is only due to the fact that the dataset is biased towards that section.
- ▶ Lending Club tries to reduce risk by often not lending to people with lower employment.



# Grade and Sub Grade

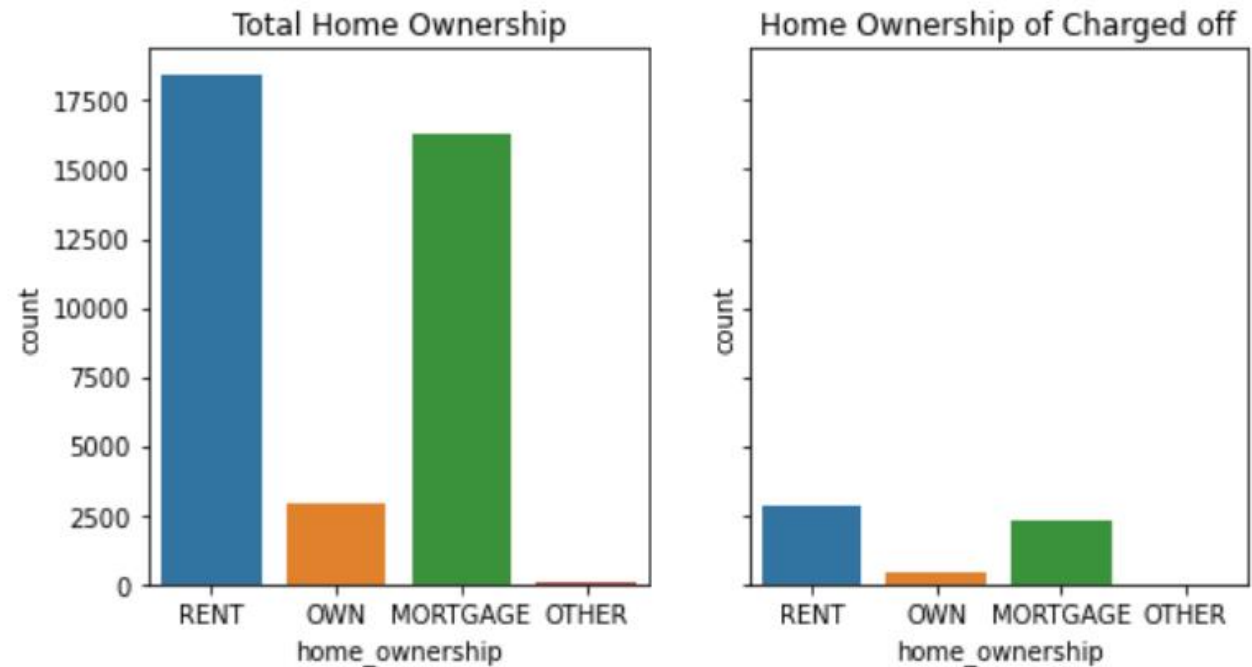
- ▶ Although it seems that most of the defaulters belong to 10+ years of employment, this is only because the dataset is biased towards that section.
- ▶ Lending Club tries to reduce risk by often not lending to people with lower employment.
- ▶ The details for Grade and Subgrades are available at:
  - ▶ <https://www.lendingclub.com/foiofn/rateDetail.action>
- ▶ Grade B (B5 mostly) are the loans that get defaulted the most.
- ▶ Grade B refers to 13.33% to 16.08%





# Home Ownership

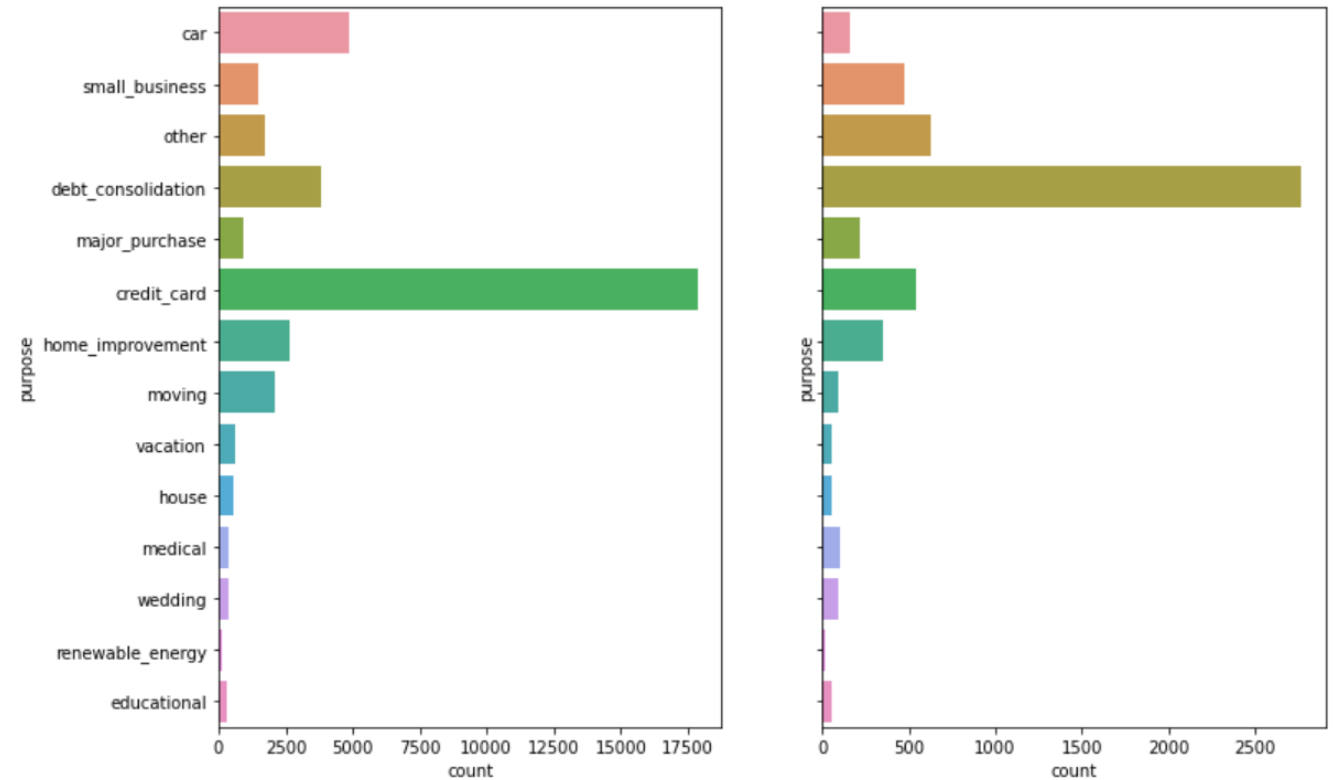
- ▶ Most of LC's applicants either rent or have mortgaged their homes.
- ▶ The data is already skewed in this direction; thus, it is difficult to judge whether rent or mortgaged applicant will default or not.
- ▶ However, it is quite clear that people who own their homes are very less likely to default. Thus, making *Home Ownership* an important factor to judge an applicant.



# Purpose of taking loans

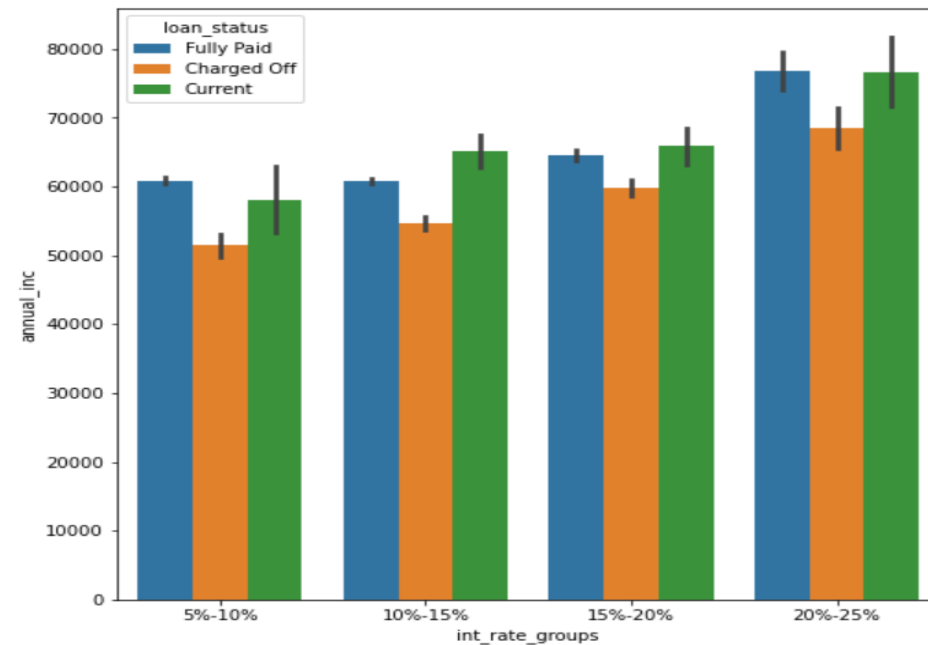
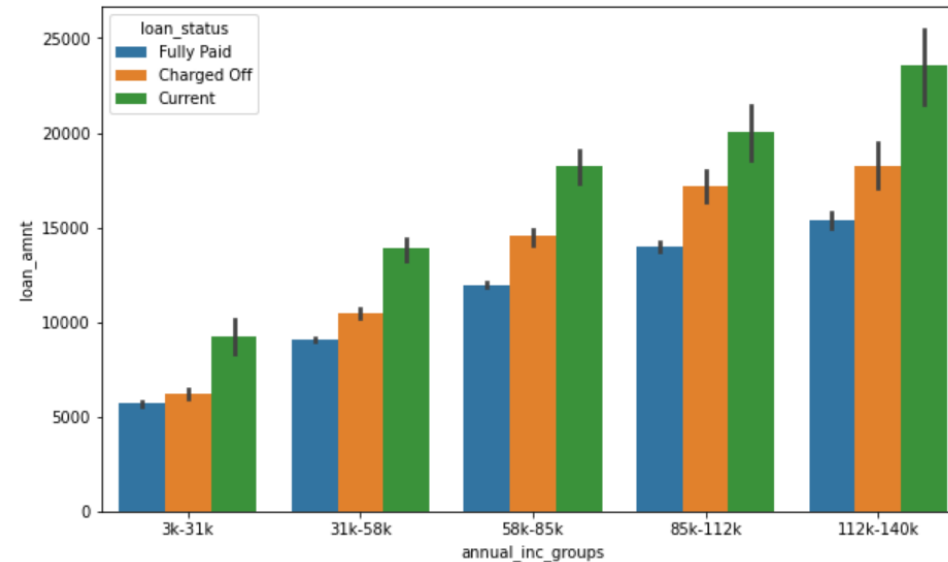
- ▶ Most of the applicants take loans to pay off their credit card.
- ▶ This is in line with the financial working of the American Society which is credit heavy.
- ▶ However, most of the defaulters belong to the “debt consolidation” category. Such applicants take loans to pay off previous debts.
- ▶ This is a serious point of risk as these applicants tend to fall in a vicious debt trap.

Comparison of Purpose between all applicants vs Defaulters



# Annual Income

- ▶ Annual Income is an extremely important factor to judge the risk of a candidate.
- ▶ Annual income is an important indicator to pay back their loans.
- ▶ Thus, based on Annual Income, Lending Club grants loans.
  - ▶ Low-income people are not granted neither high loans not high interest rates.
  - ▶ Doing so, is likely to make them default or turn away.



# Delinquency

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- ▶ History of Delinquency is an important factor to judge the risk of a candidate.
- ▶ This is part of the credit history of the candidate.
- ▶ Applicants with no or low history of delinquency are low risk and good for business

Comparison of 30+ days of Delinquency

