

Module 7: Supervised Learning - I

Case Study – 3

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Domain – Banking/Loan

focus – Lower NPA (Non-Performing Asset)

Business challenge/requirement

PeerLoanKart is an NBFC (Non-Banking Financial Company) which facilitates peer-to-peer loans.

It connects people who need money (borrowers) with people who have money (investors). As an investor, you would want to invest in people who showed a profile of having a high probability of paying you back.

You as an ML expert create a model that will help predict whether a borrower will pay the loan or not.

Key issues

Ensure NPAs are lower – meaning PeerLoanKart wants to be very diligent in giving loans to a borrower

Considerations

NONE

Data volume

- Approx 9578 records – file loan_borrower_data.csv

Fields in Data

- credit.policy: 1 if the customer meets the credit underwriting criteria of PeerLoanKart, and 0 otherwise
- purpose: The purpose of the loan (takes values "credit_card", "debt_consolidation", "educational", "major_purchase", "small_business", and "all_other")
- int.rate: The interest rate of the loan, as a proportion (a rate of 11% would be stored as 0.11). Borrowers judged by PeerLoanKart to be riskier are assigned higher interest rates
- installment: The monthly installments owed by the borrower if the loan is funded
- log.annual.inc: The natural log of the self-reported annual income of the borrower

- dti: The debt-to-income ratio of the borrower (amount of debt divided by annual income)
- fico: The FICO credit score of the borrower
- days.with.cr.line: The number of days the borrower has had a credit line
- revol.bal: The borrower's revolving balance (amount unpaid at the end of the credit card billing cycle)
- revol.util: The borrower's revolving line utilization rate (the amount of the credit line used relative to total credit available)
- inq.last.6mths: The borrower's number of inquiries by creditors in the last 6 months
- delinq.2yrs: The number of times the borrower had been 30+ days past due on a payment in the past 2 years
- pub.rec: The borrower's number of derogatory public records (bankruptcy filings, tax liens, or judgments)
- **not.fully.paid: This is the output field. Please note that 1 means the borrower is not going to pay the loan completely**

Additional information

- NA

Business benefits

Increase in profits up to 20% as NPA will be reduced due to loan disbursal for only good borrowers