

## CASE STUDY - BANKING PEER GROUP LENDING (REGRESSION)



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The Lending Club is a peer-to-peer lending site where members make loans to each other. The site makes anonymized data on loans and borrowers publicly available.

**Business Problem:** How can we predict interest rates based on borrower and loan attributes?

We would like to use lending club loans data to explore how the interest rate charged on loans depends on various factors.

**DATA AVAILABLE:**

➤ LoansData.csv

The data have the following variables (with data type and explanation of meaning)

- **Amount.Requested** - *numeric*. The amount (in dollars) requested in the loan application.
- **Amount.Funded.By.Investors** - *numeric*. The amount (in dollars) loaned to the individual.
- **Interest.rate** – character. The lending interest rate charged to the borrower.
- **Loan.length** - character. The length of time (in months) of the loan.
- **Loan.Purpose** – categorical variable. The purpose of the loan as stated by the applicant.
- **Debt.to.Income.Ratio** – character. The % of consumer's gross income going toward paying debts.
- **State** - character. The abbreviation for the U.S. state of residence of the loan applicant.
- **Home.ownership** - character. Indicates whether the applicant owns, rents, or has a mortgage.
- **Monthly.income** - categorical. The monthly income of the applicant (in dollars).
- **FICO.range** – categorical (expressed as a string label e.g. "650-655"). A range indicating the applicants FICO score.
- **Open.CREDIT.Lines** - numeric. The number of open lines of credit at the time of application.
- **Revolving.CREDIT.Balance** - numeric. The total amount outstanding all lines of credit.
- **Inquiries.in.the.Last.6.Months** - numeric. Number of credit inquiries in the previous 6 months.
- **Employment.Length** - character. Length of time employed at current job.