

# Prosper Loan Exploration

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# Investigation Overview

In this investigation I wanted to investigate two main things:

- What metrics can be used to predict credit defaults?
- Does the loan term have an effect on default?

## Dataset Overview

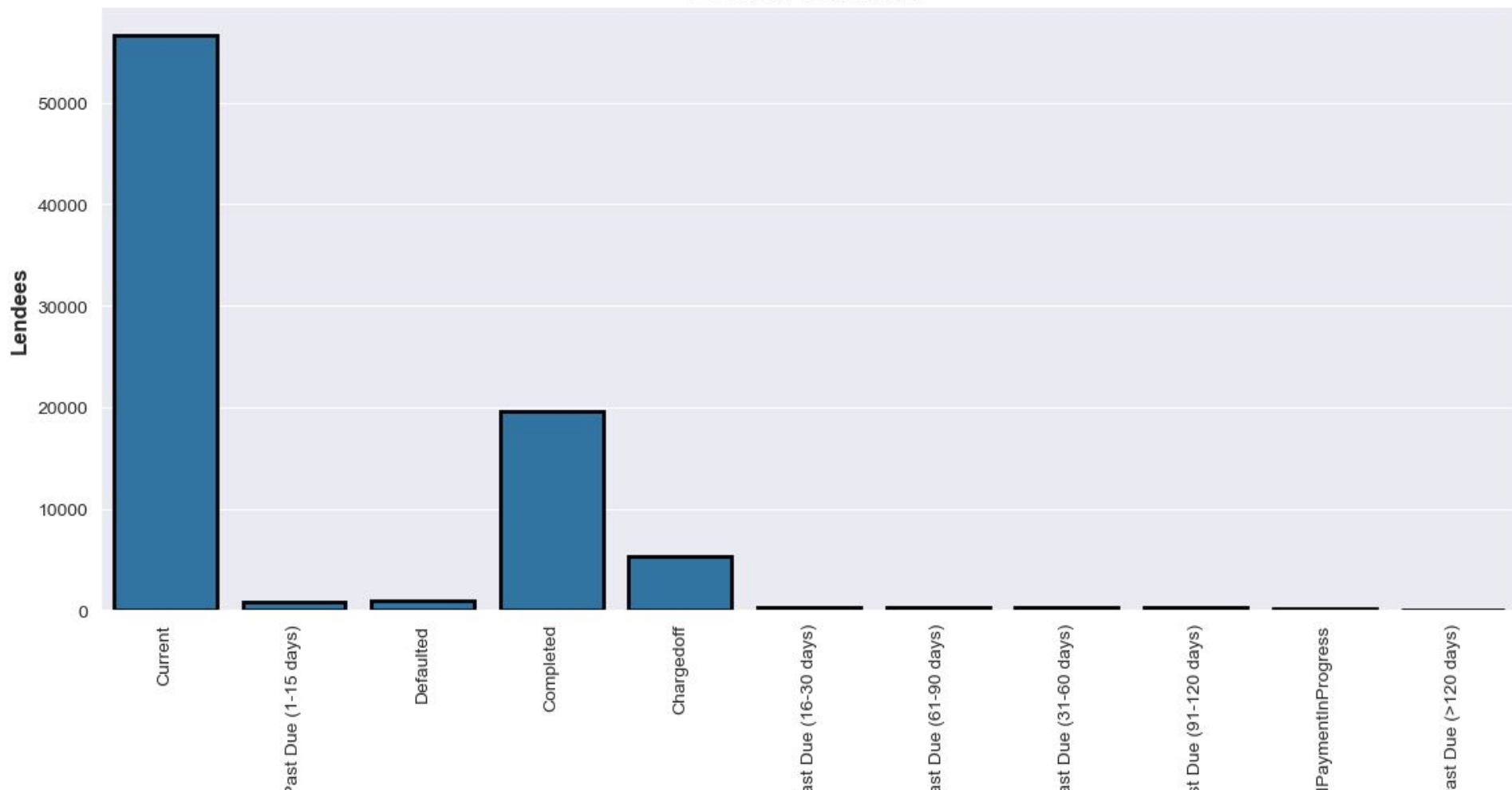
This data set contains 113937 rows, with 81 columns containing information about loans made through Prosper, a peer-to-peer lending platform. For the purpose of this analysis, I'm using the following columns: 'Term', 'LoanStatus', 'BorrowerRate', 'ProsperRating (Alpha)', 'ListingCategory (numeric)', 'EmploymentStatus', 'DelinquenciesLast7Years', 'StatedMonthlyIncome', 'TotalProsperLoans', 'LoanOriginalAmount', 'LoanOriginationDate', 'Recommendations', 'Investors'.

# Loan status

First we need to look at the status of the loans in our dataset. What this graph tells us is:

- Most of the loans are current, not late or in default, and not completed (paid off).
- Completed loans are our second biggest category.
- Past due loans are split into several categories based on the amount of days past due.

# Loan Status

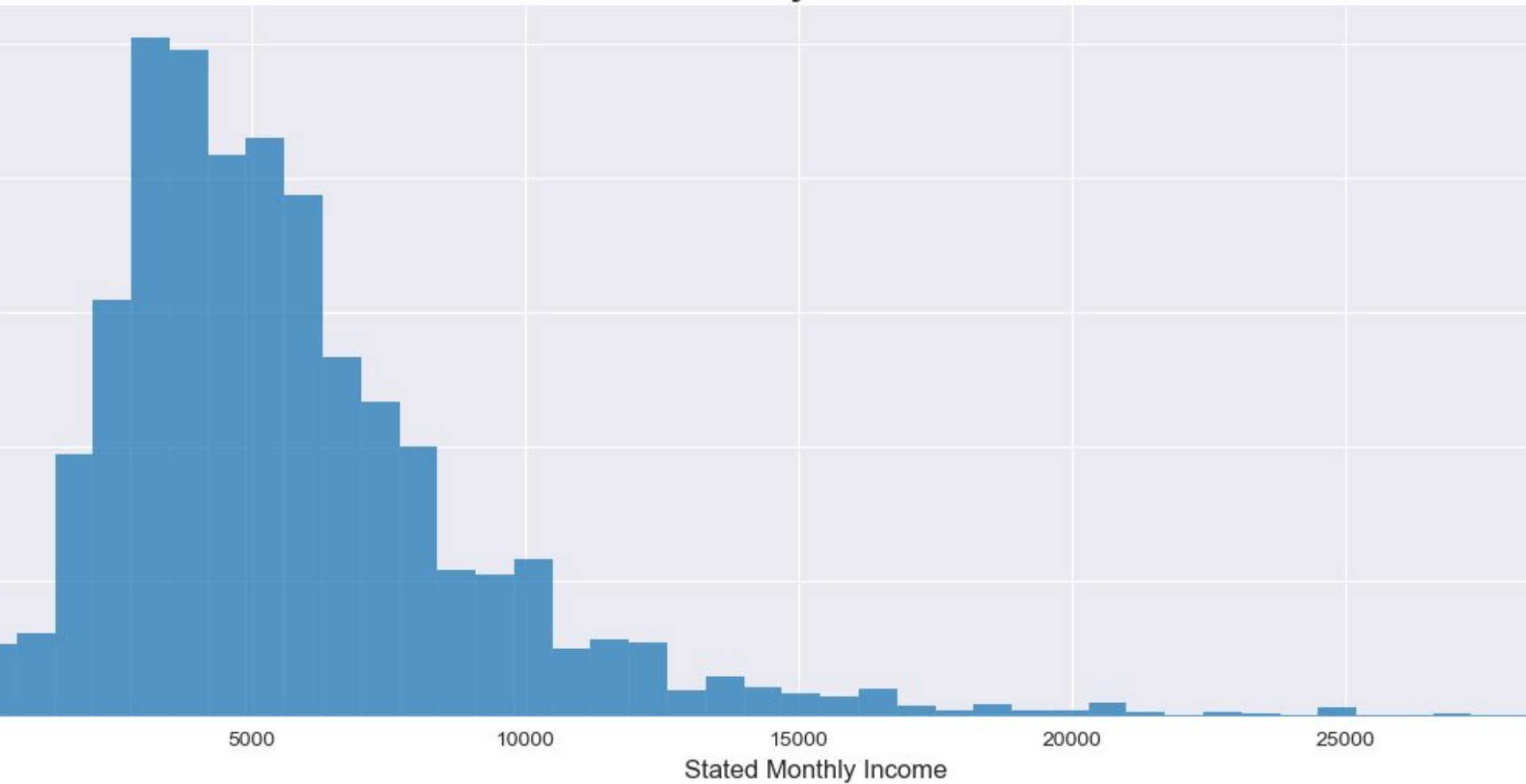


# Stated Monthly Income

Next we will look at the stated monthly income of all lendeers. From this graph what we've learned is:

- We can see that the majority of lendeers land around \$5000 in monthly income.

# Monthly Income



# Term Lengths

Let's take a look at term lengths next. As we can see in the below graph, 36 month (3 year) loans are by far the most popular loans given through Prosper.

## Term Length



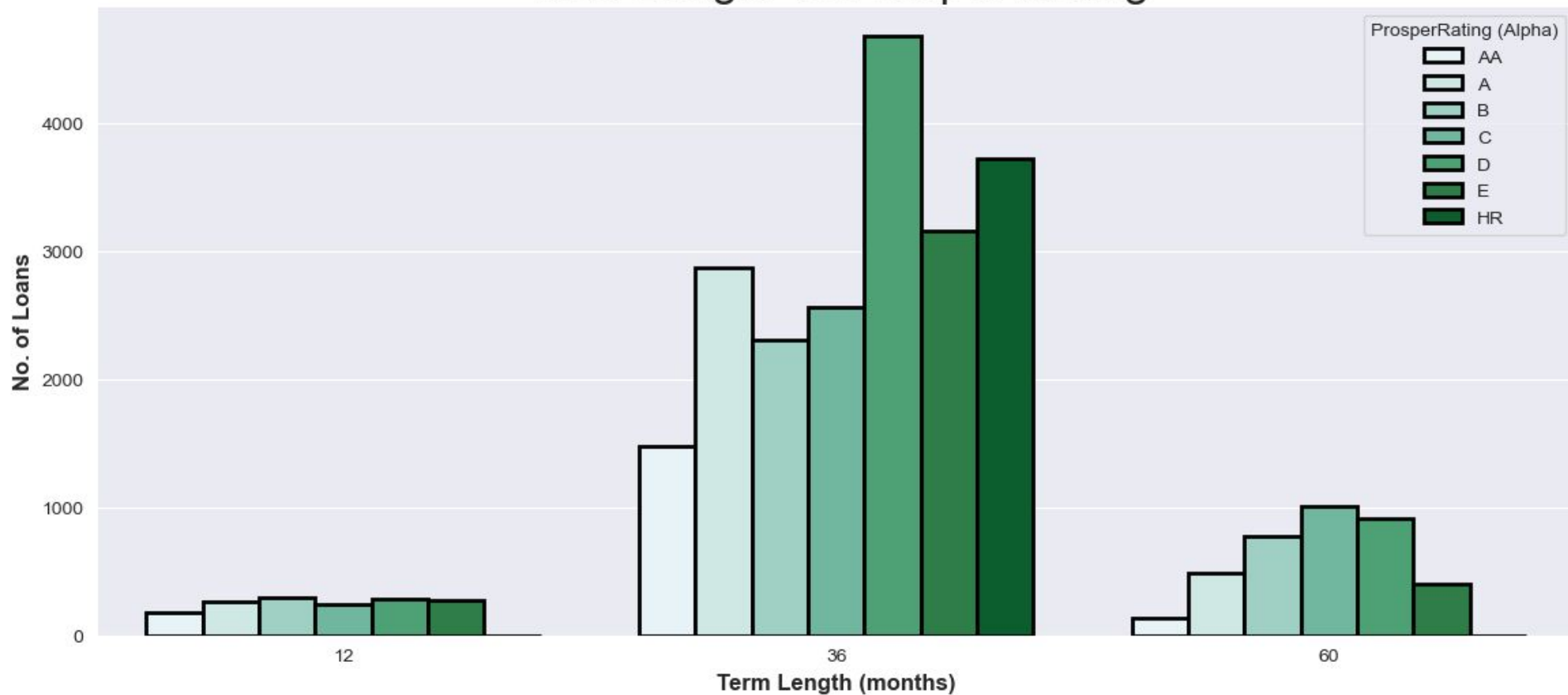


# Prosper rating vs loan length

Now let's look at Prosper credit ratings and if that has an impact on the length of the loans.

- The amount of 12 month term loans is nearly uniform with the exception of the HR category
- 36 month term loans have the highest amount of loans in the HR category

# Term Length vs Prosper Rating



# Rating, loan amount, loan status

When looking at the Prosper Rating, amount of the loan and status of the loan we learn that:

- Except for the HR rating, defaulted loans are larger than completed loans.
- Most of the defaulted loans come from individuals with a low Prosper rating.

# Rating Impact on Loan Amount and Status

