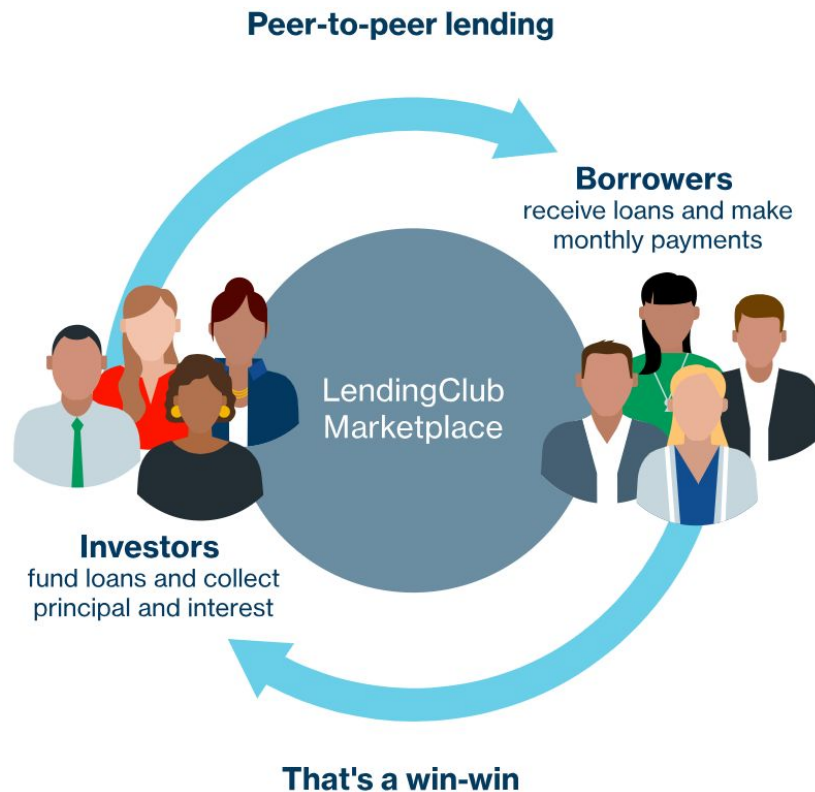


# Soothsaying: paying or betraying

Jonathan Dawson



A platform to connect lenders and loaners



# Question

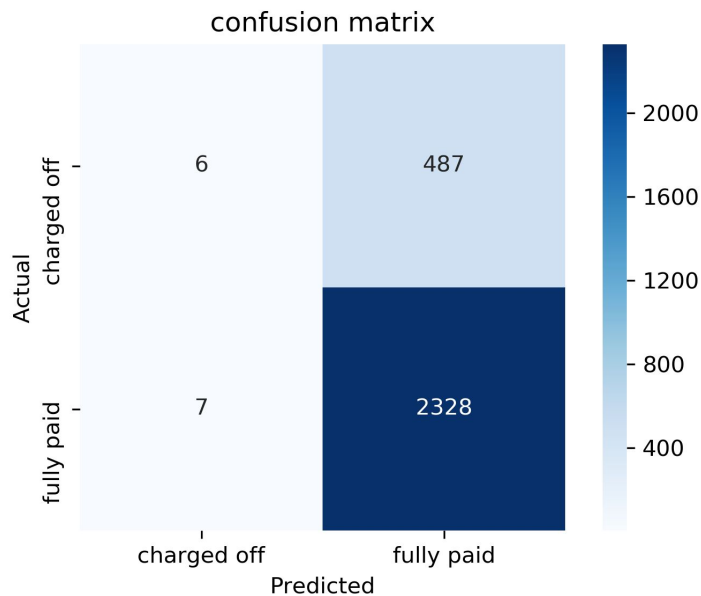
Will the loan be paid back?

Charge Off is a loan that hasn't been paid back for 6 months.

Fully Paid means a loan has been paid back with interest.

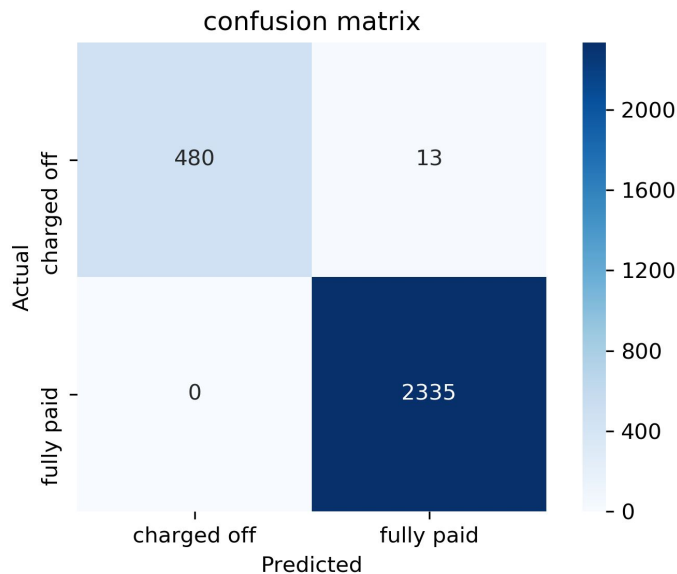
# Answer

Difficult to figure out who won't pay back based on the initial data provided.

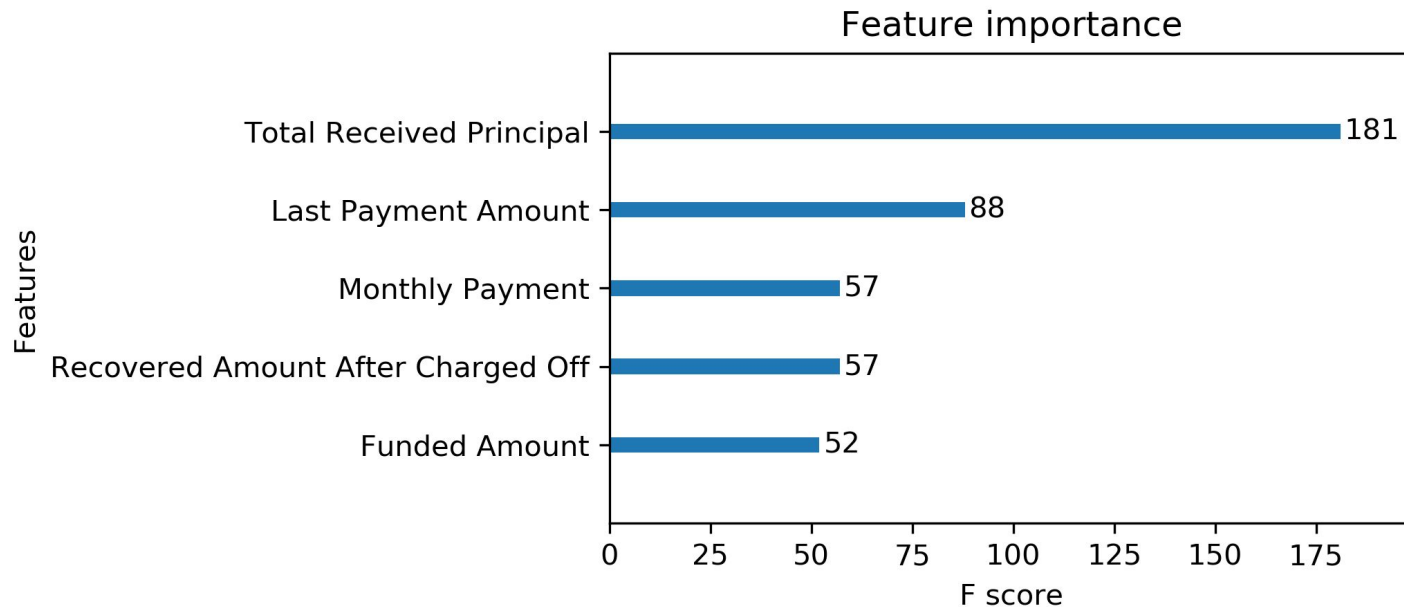


# Answer

However, including data generated after the loans were granted such as how much of the loan was paid back, results in a better model.



# Important Features

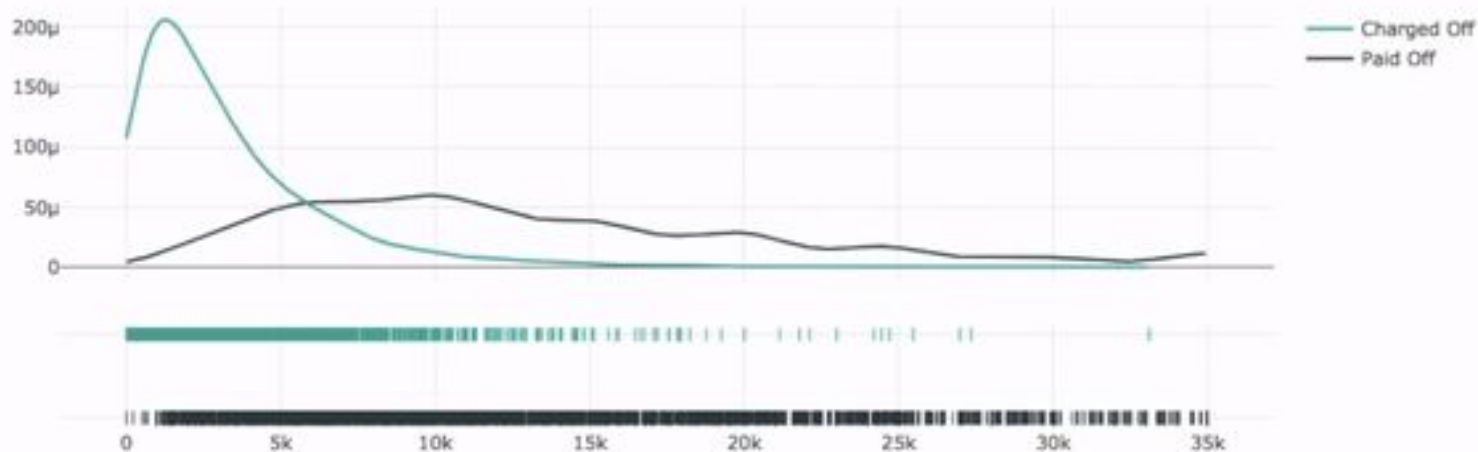


# Charged Off or Fully Paid

View the distributions of each feature for the Charged Off or Fully Paid class.

Total Received Principal

X



# Programs Used

*dmlc*  
***XGBoost***



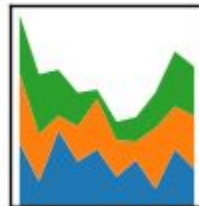
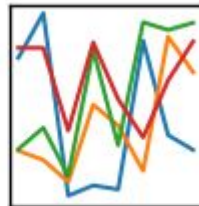
Dash



plotly

pandas

$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$





# Takeaways

Predicting if someone will pay back their loan is more effective once someone starts paying back their loan.

This model is helpful if initial investors try to sell each individual part and buyers of those loan parts would like to assess how the loan will perform.