

A low-angle, upward-looking perspective of two modern skyscrapers with glass facades. The buildings are positioned on either side of the frame, creating a sense of height and scale. The sky is a uniform, overcast grey. The text is overlaid on the central part of the image.

Ethical Loans

Avoiding another credit crunch

Problem Definition

**Default loan
costs on
average
\$10,000**

**1 in 5
people
phone the
Samaritans**

**We can use
data to
make better
decisions**

[Redacted]

[Redacted] Bank of

England Statistics pages

[1 in 5 calls to the Samaritans in the UK](#)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Predicting Loan Repayment

How risky?

**Should we
lend?**

**Good
borrower
vs. bad**

PREDICTING LOAN REPAYMENT

The critical question in the lending industry are :

1. How Risky is a borrower ?
2. Given the borrowers risk, should banks lend money ?
3. How do we determine a good borrower and a bad one ?

Will try and answer the above questions and share with you the methods we used to help mitigate the issue of bad borrowers .

What does success look like?

**Currently
correct 70%
of the time**

**Build a
model with
an error <
30%**

**What
accurately
predicts a
'bad'
lender?**

[Redacted]

[Redacted]

[Redacted]

[Redacted]

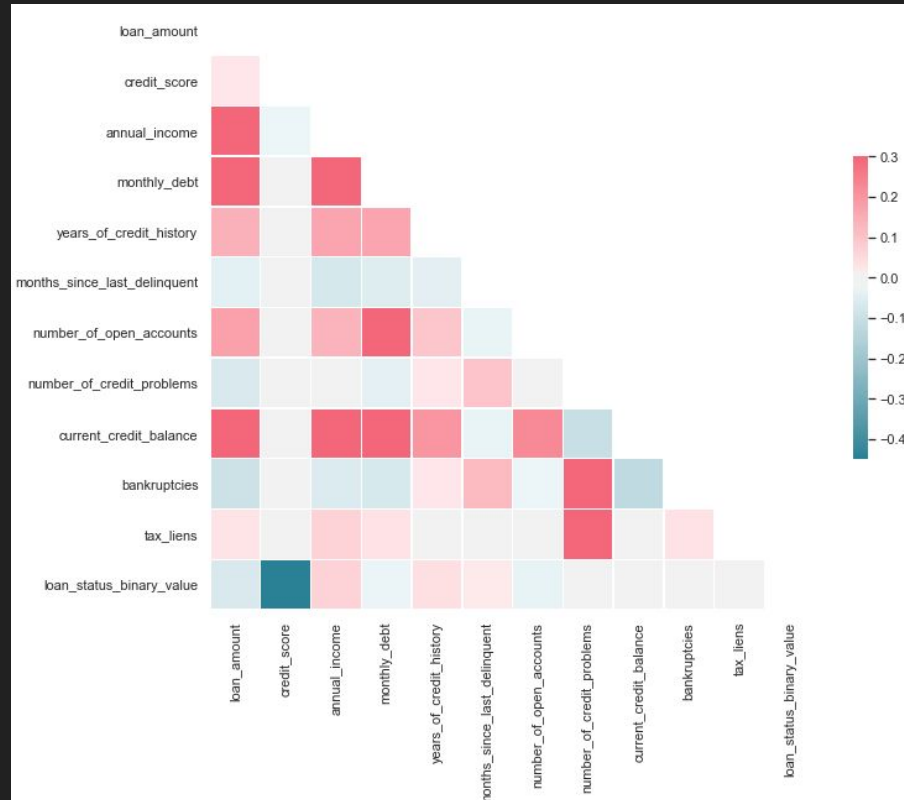
[Redacted]

[Redacted]

[Redacted]

[Redacted]

Correlation Matrix

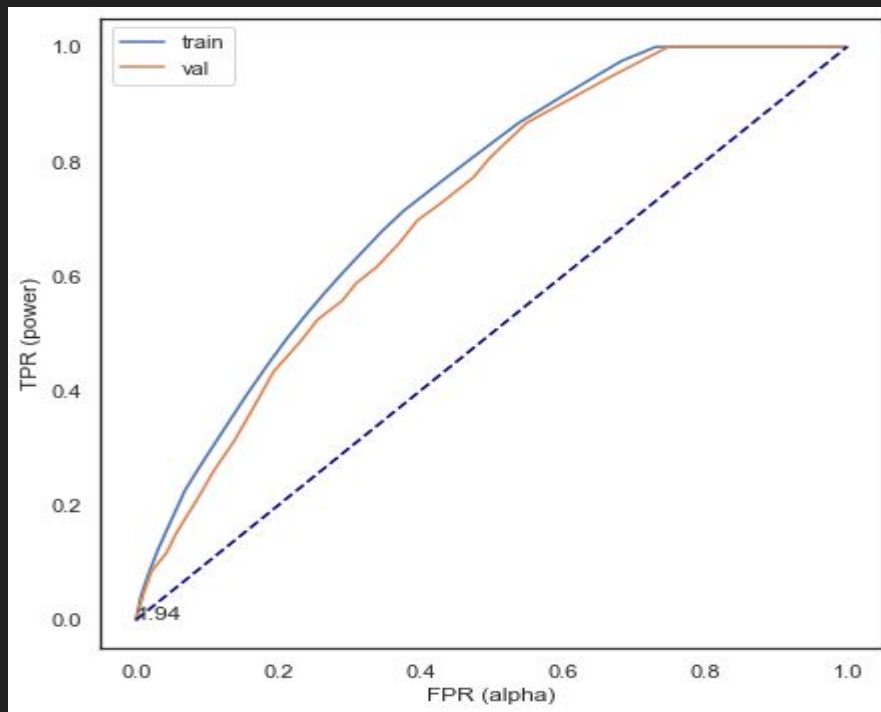


Correlation Matrix.

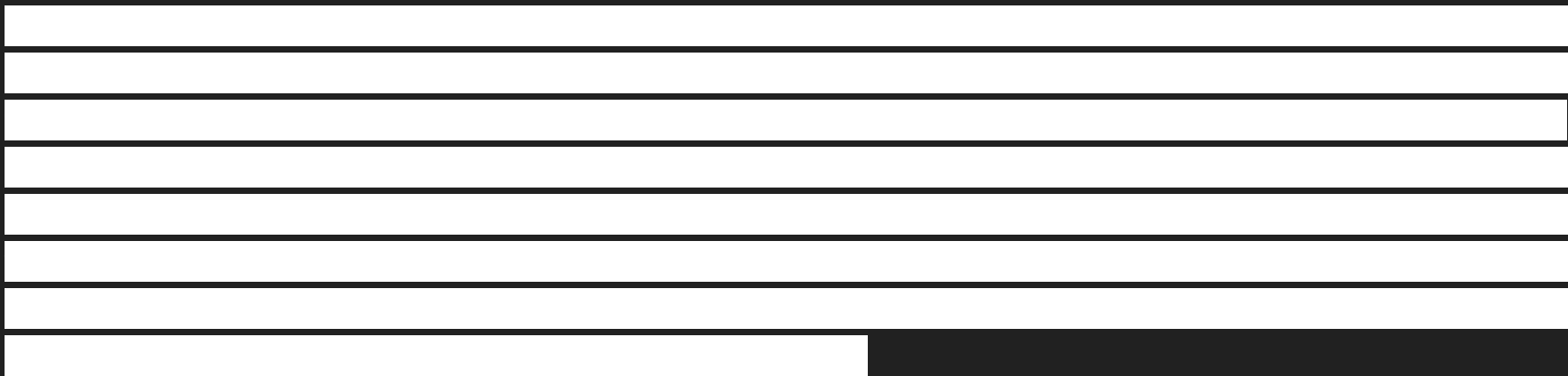
Looking at a correlation matrix of all numeric variables in the dataframe, we can see a strong correlation between credit_score and loan_status_binary_value which is to be expected. Clearly the processes currently being used are having some success and so building on this success will be challenging, but beneficial if it can be achieved.

Winning Model

Error rate < 25%



WINNING MODEL



Thanks for listening