

Lending Club credit defaults

08th October 2020 at neufische (Hamburg)
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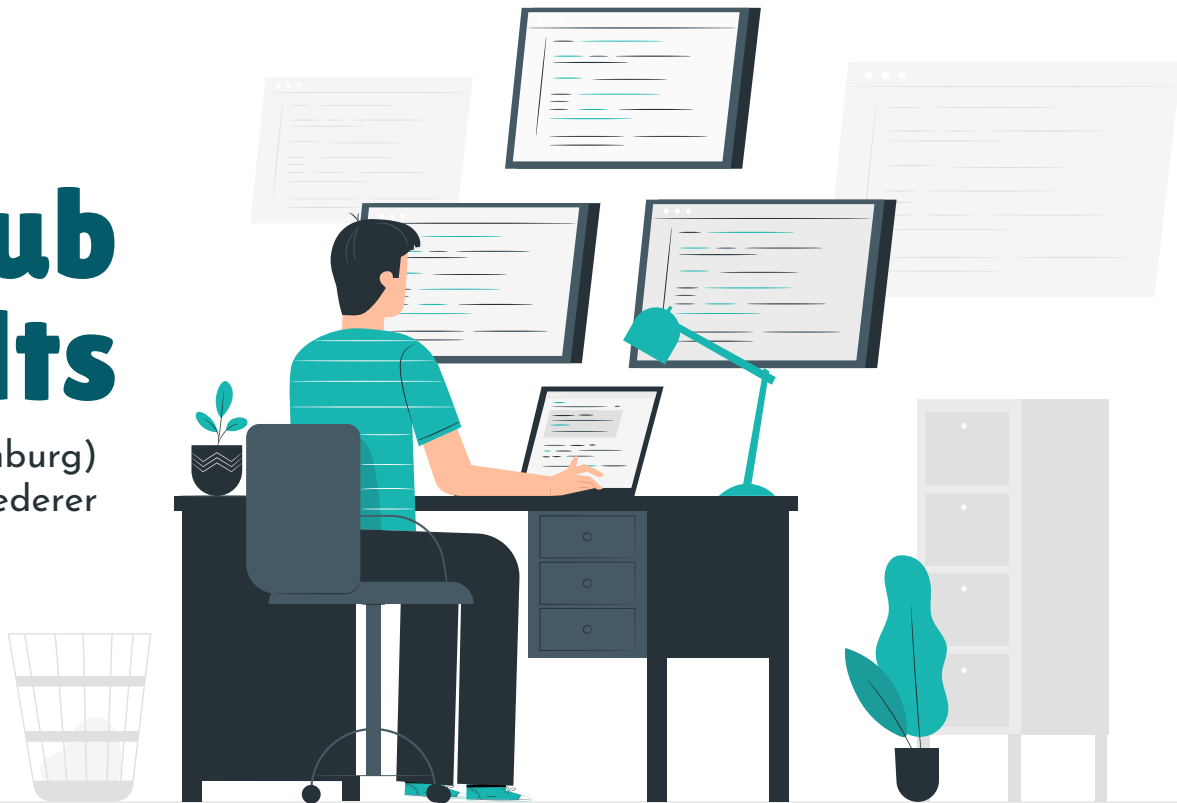


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Peer to Peer lending, Lending Club

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01 Background – Peer2Peer lending

Definition

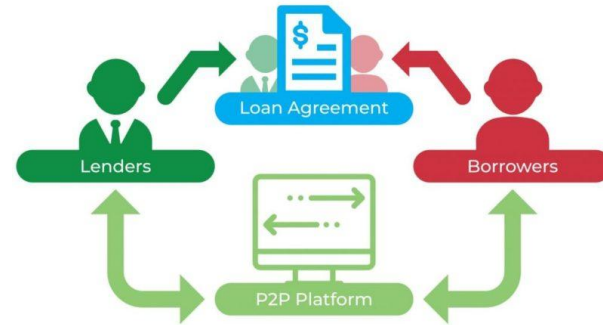
“practice of lending money to individuals or businesses”

Platform

Traditional - public markets
Modern - online platform

Common in

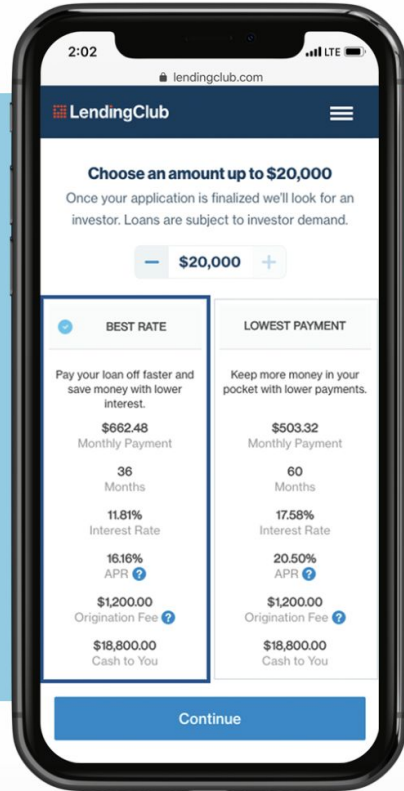
Countries with **low or high** regulated public banks



01 Background – Lending Club

1

Apply in
minutes



2

Choose a
loan offer

Select the rate, term, and
payment options you like
best.

3

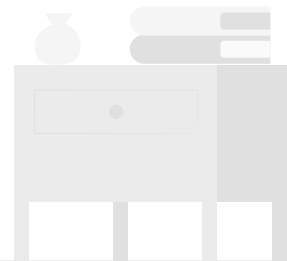
Get funded

01 Background – Lending Club

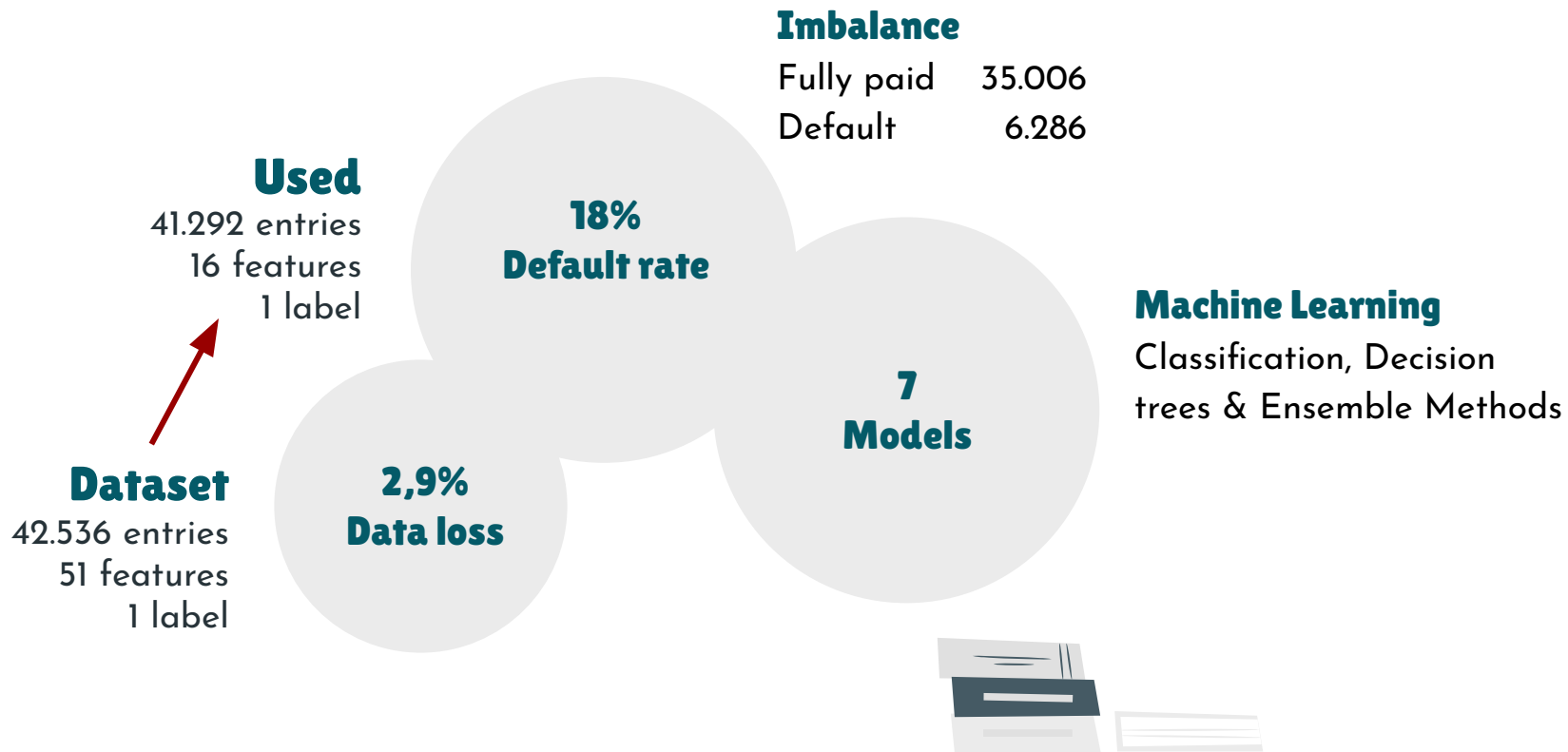


Lending Club

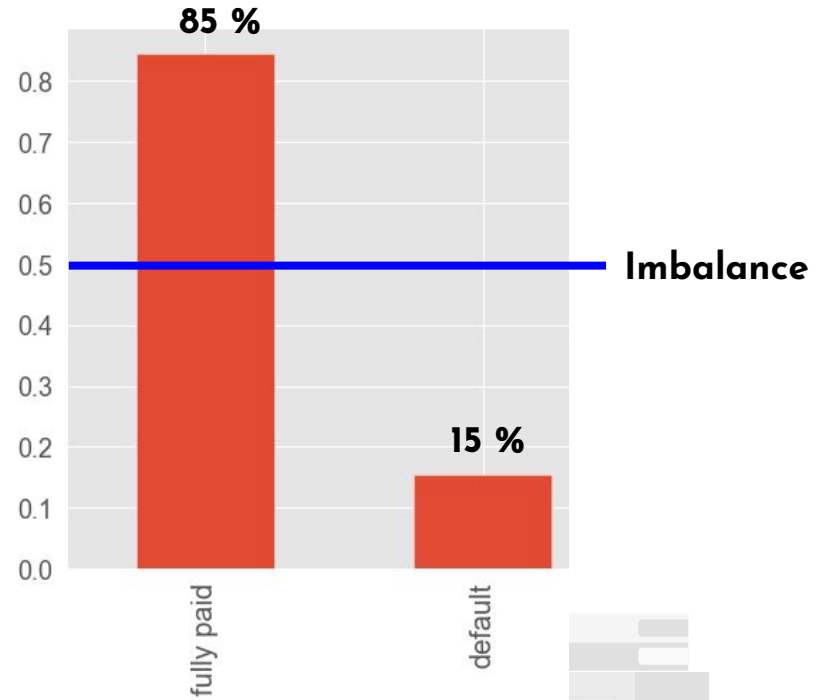
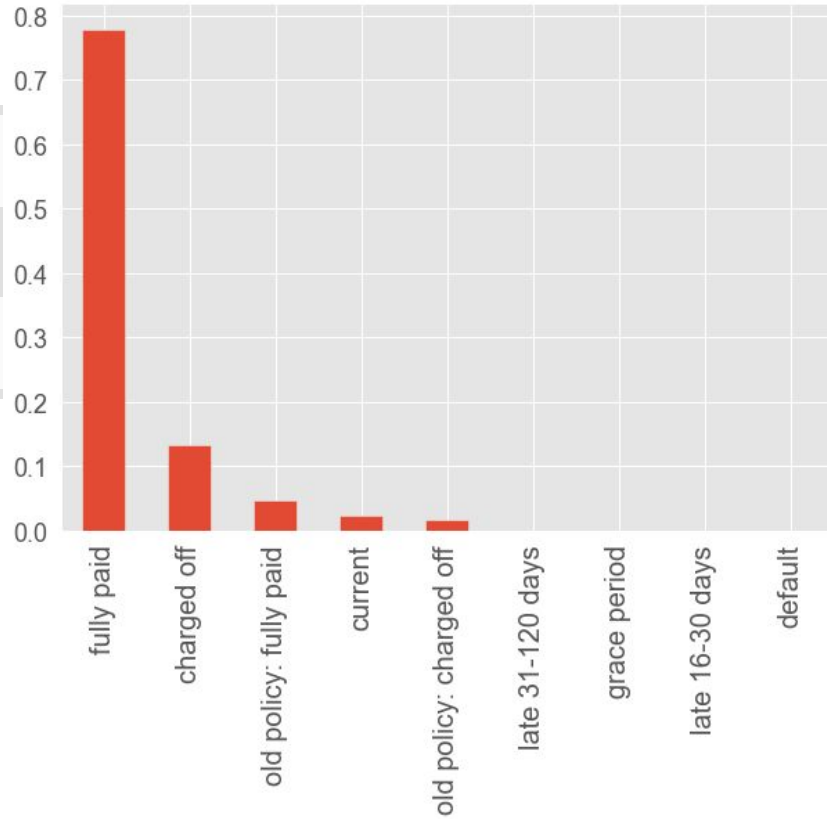
“Bringing borrowers and investors together for the last 12 years.”



02 About the data



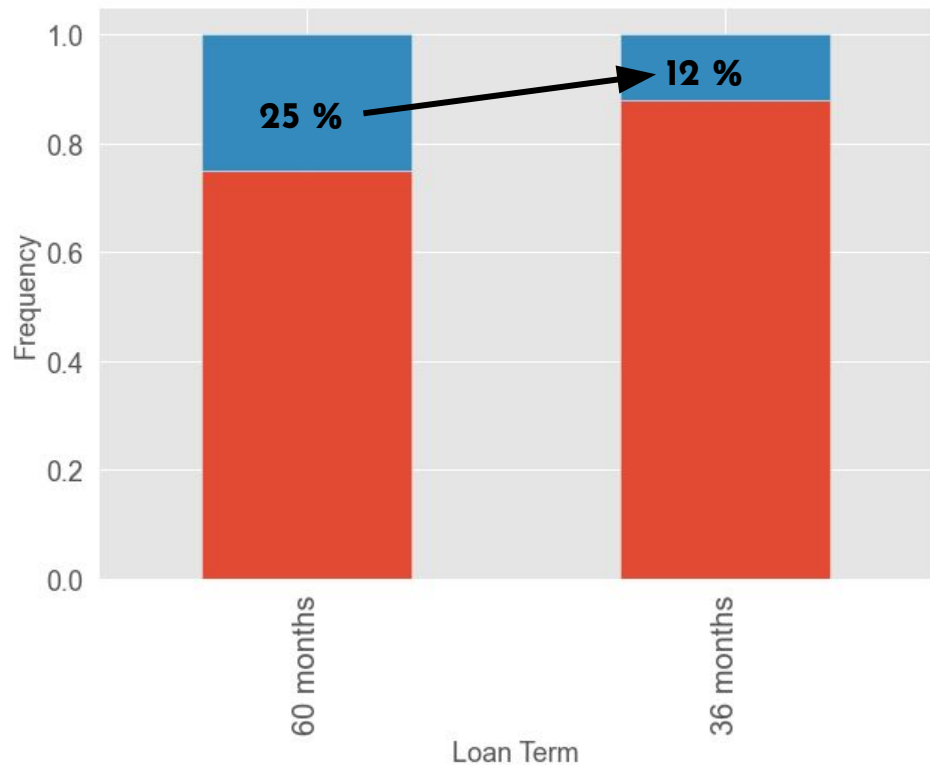
03 Risky Credits – Balance



* only closed loans

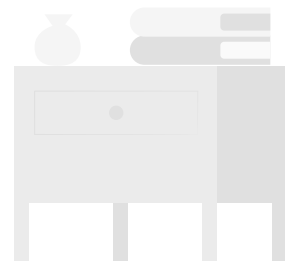
* Aug-2007 to Dec-2011

03 Risky Credits – loan term

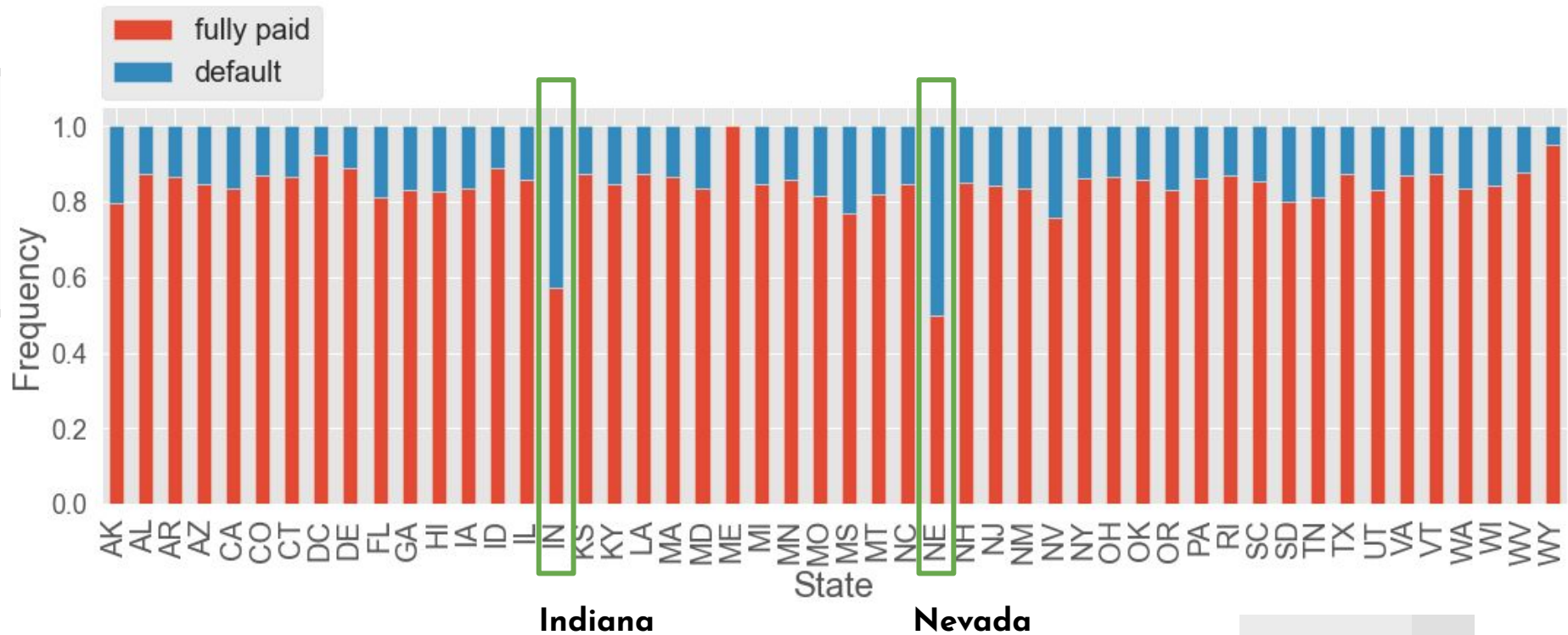


fully paid
default

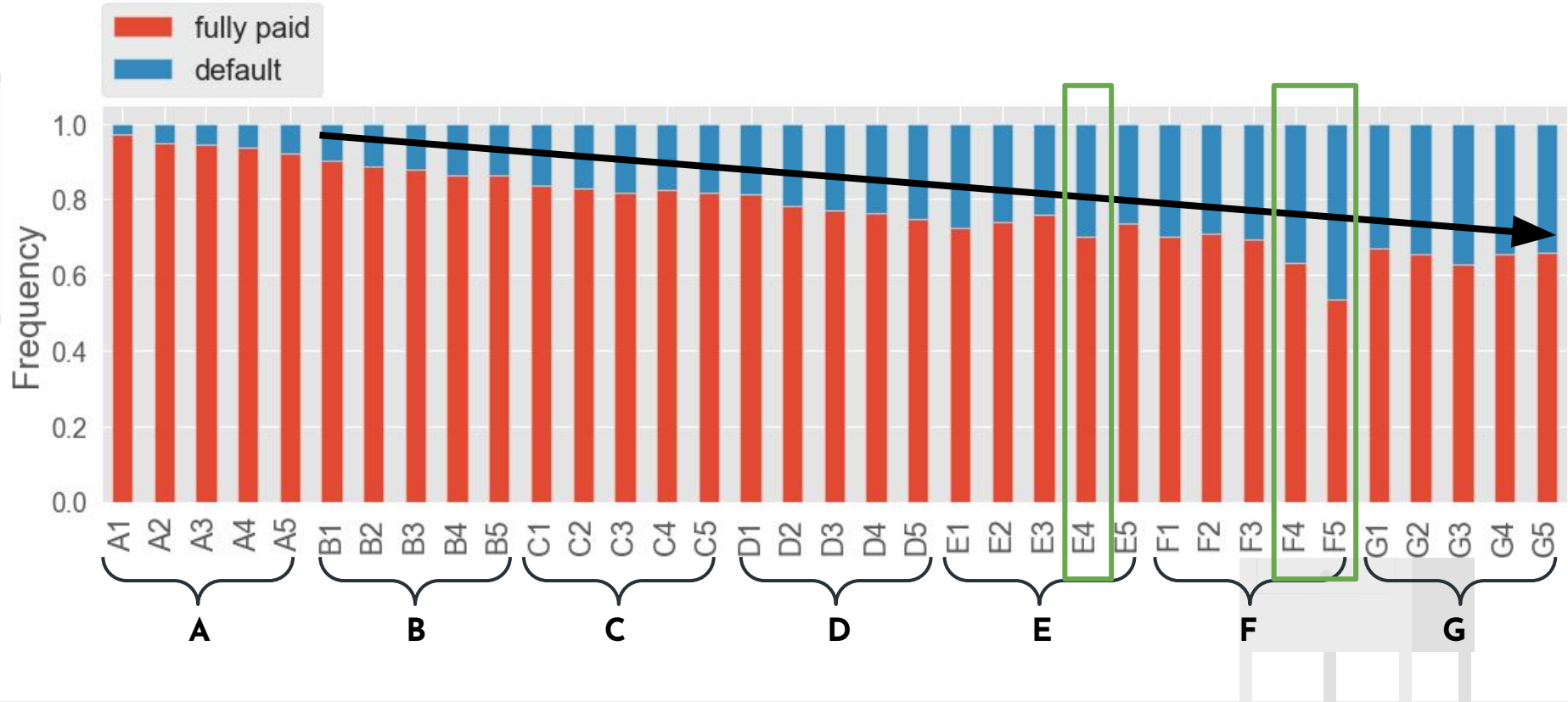
Default rate doubles for long term loans!



03 Risky Credits – state



03 Risky Credits – grading



04 Default Prediction – Preprocessing

20.000

Resample

Minority (default): Upsampling
Majority (fully paid): Downsampling

5

Dummies

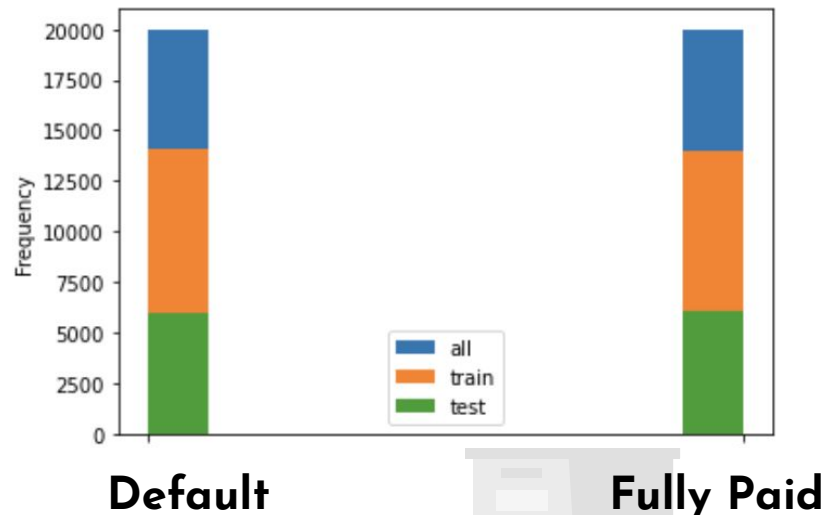
For categorical features

2

Scale & Logarithmize

For skewed features
Standard Scaler

	train abs	train %	test abs	test %	all abs	all %
0	14037	0.5	5963	0.5	20000	0.5
1	13963	0.5	6037	0.5	20000	0.5



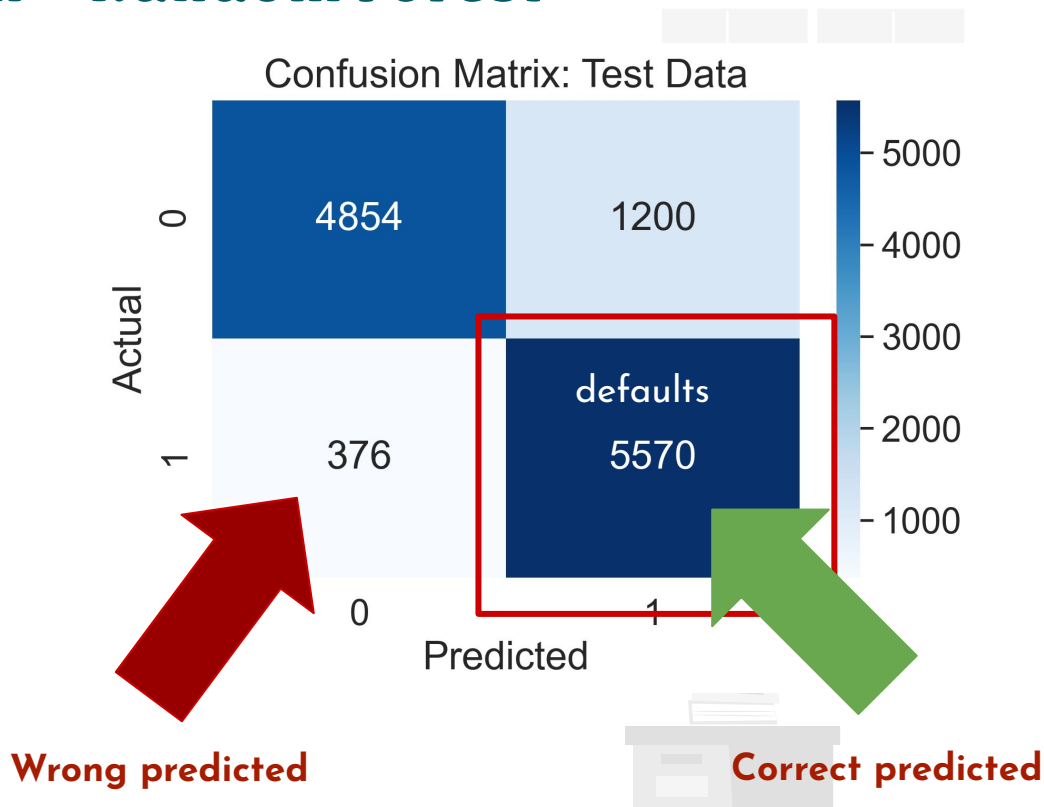
04 Default Prediction – Random Forest

Recall: **94 %**

We identified 94 % of all actual defaults!

Accuracy: **87 %**

Overall we misclassified 13 % of our loans (default/fully paid)

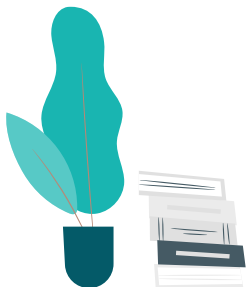


05 Future Work

other perspectives other needs

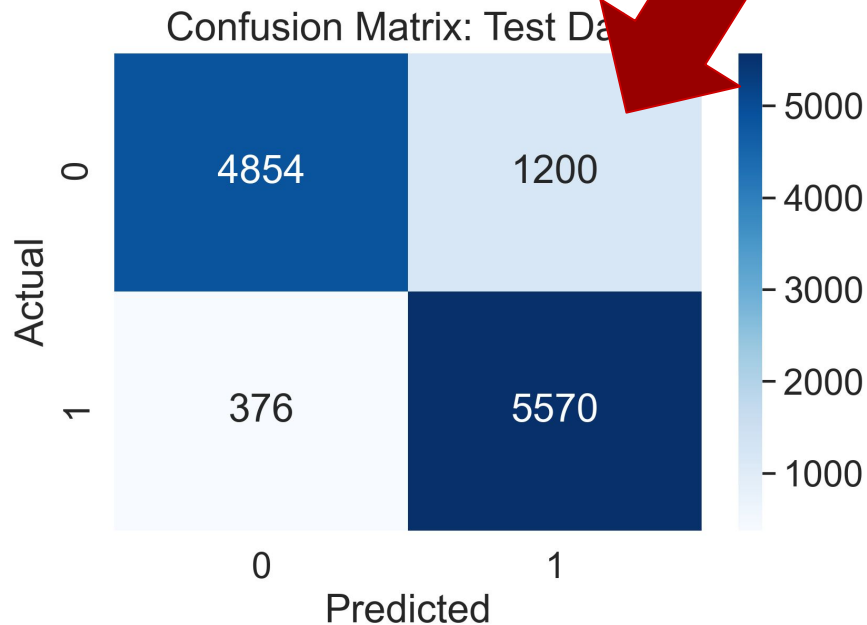
- Models are focused on investors safety -

What about the Lending Club?
What about the borrowers?



improve the models

Lost customers



06 Further information – check our GitHub

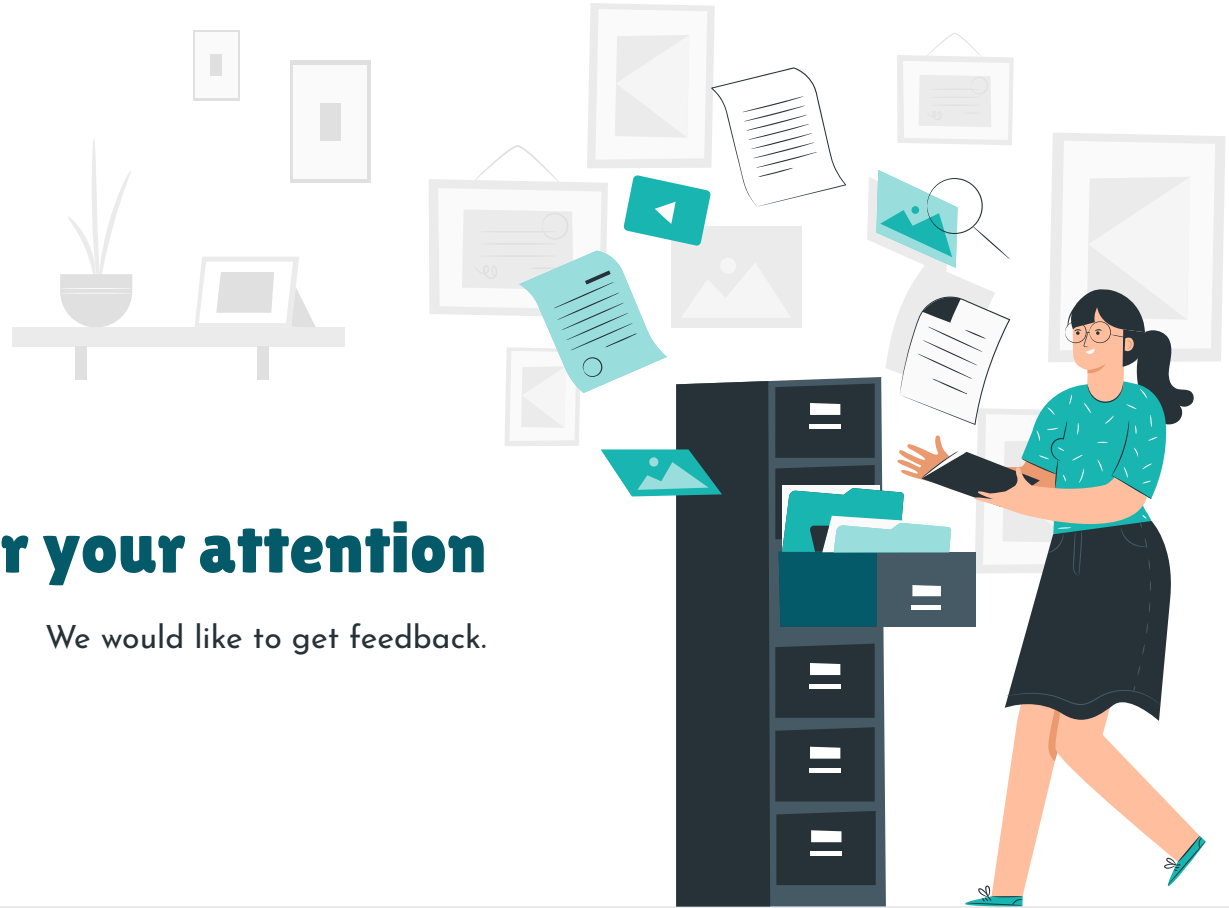
GitHub accounts

[ib-ds2020](#)
[sls-mdr](#)



Thanks for your attention

We would like to get feedback.



Sources:

- Lenz, R. (2016) Peer-to-Peer Lending: Opportunities and Risks - in European Journal of Risk Regulation 7(4):688-700
- Lending Club (2020) <https://www.lendingclub.com/>

Images:

- Jean Galea (2020) P2P Lending Glossary <https://jeangalea.com/p2p-lending-glossary/>
- Lending Club (2020) <https://www.lendingclub.com/>

Contacts

Contact information

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Github accounts

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- Please don't hesitate to contact us. -

