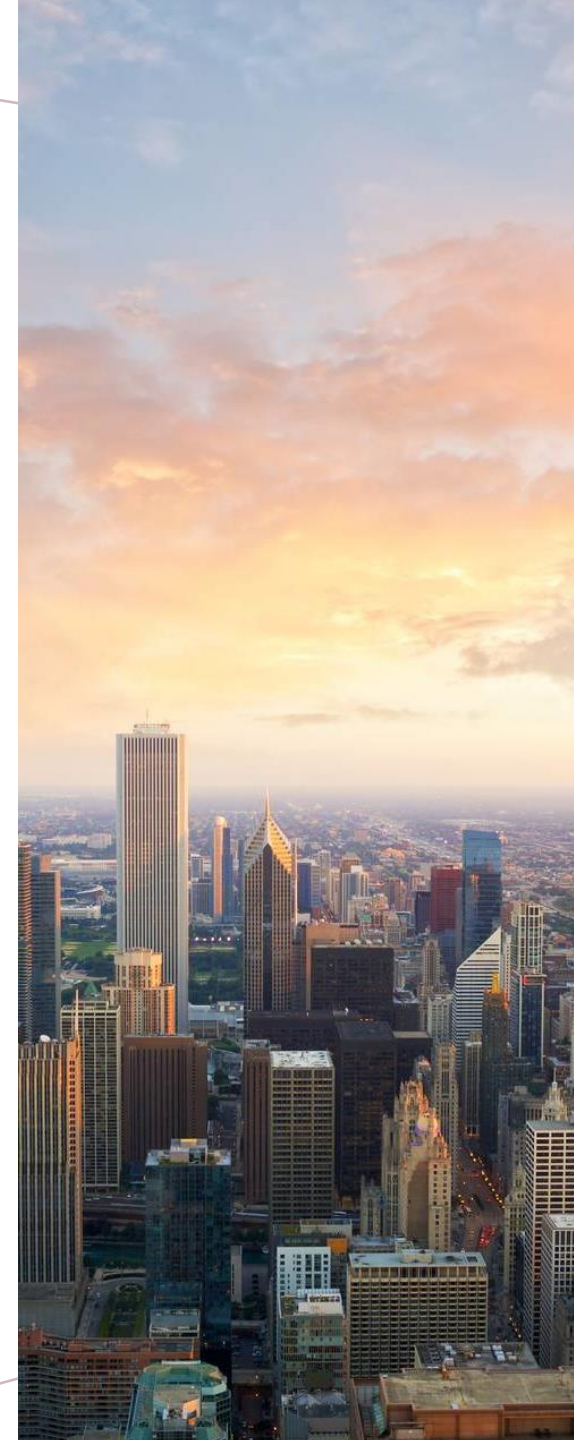# SMALL BUSINESS LOAN APPROVAL FORECAST

Overview of Problem

Proposed Vision

Potential Impact
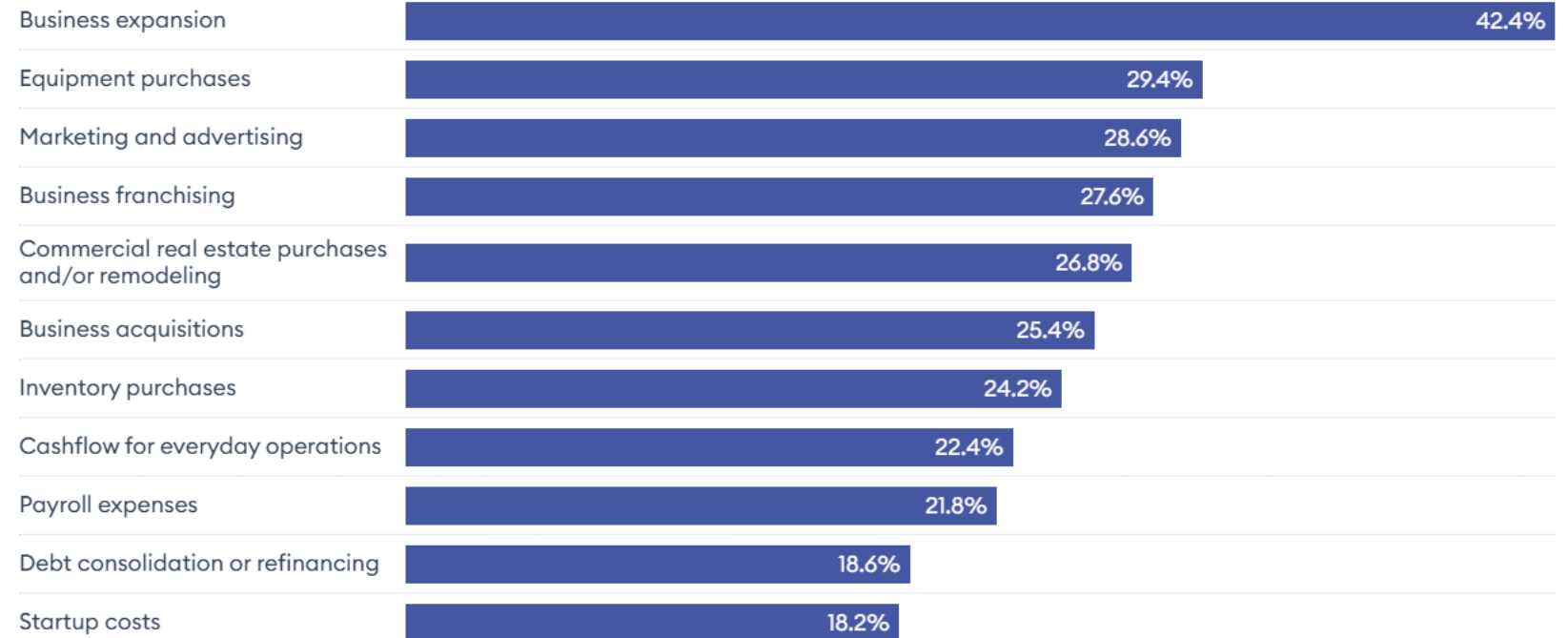
Introduction of Datasets

Next Step

OVERVIEW OF PROBLEM

- More and more small businesses are moving away from traditional financing, but picking alternative financing options, i.e. crowdfunding, peer-to-peer lending and fintech platforms.

- 61% of small businesses will spend the businesses loan funds. Timely approval for loans are needed.

- High interest rates are increasing the difficulties of small businesses to get financing.

- Lenders or investors may miss investment opportunities because of the rising insolvency rates on the market.

OVERVIEW OF PROBLEM

Reasons for Applying for a Business Loan

Respondents were able to select up to three reasons why they applied for the loan.

Reason	Percentage
Business expansion	42.4%
Equipment purchases	29.4%
Marketing and advertising	28.6%
Business franchising	27.6%
Commercial real estate purchases and/or remodeling	26.8%
Business acquisitions	25.4%
Inventory purchases	24.2%
Cashflow for everyday operations	22.4%
Payroll expenses	21.8%
Debt consolidation or refinancing	18.6%
Startup costs	18.2%

Note: We surveyed 500 U.S. adults who applied for a business loan.

Source: Forbes Advisor April 2023 Survey • Embed

Forbes ADVISOR

POTENTIAL IMPACT

- This project's goal is to find a quicker and more accurate way to forecast if a small business can pay off its loan.

- This helps investors/ banks/ other loan providers to reduce the risks and improve efficiency.

- Also helps a small business owner to see if they can qualify for a loan in an easier way.

- Prepare company's financial with industry average, provide a general overview of company's liquidity status.
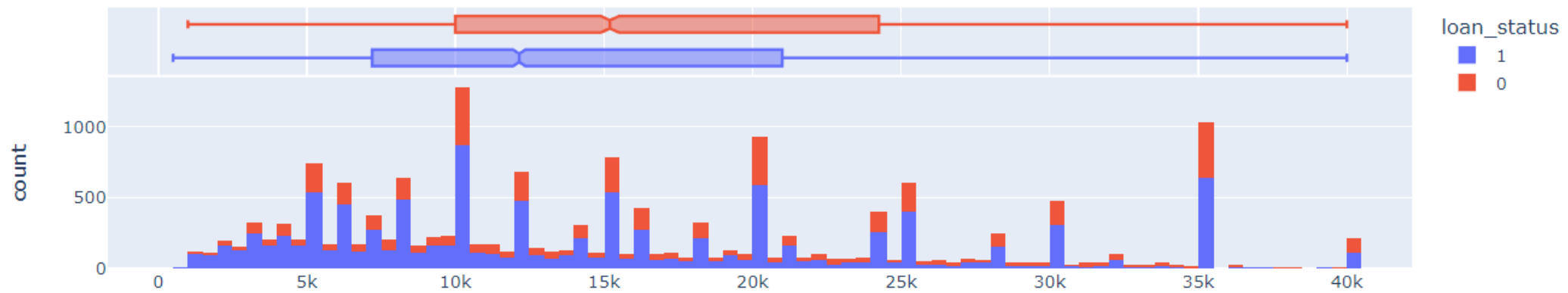
DATA SCIENCE APPROACH

- Gather data from industry average, approved loans information

- Clean up data, convert categorical data into numerical data

- Filter out only the information needed

- Build a model and test and evaluate model
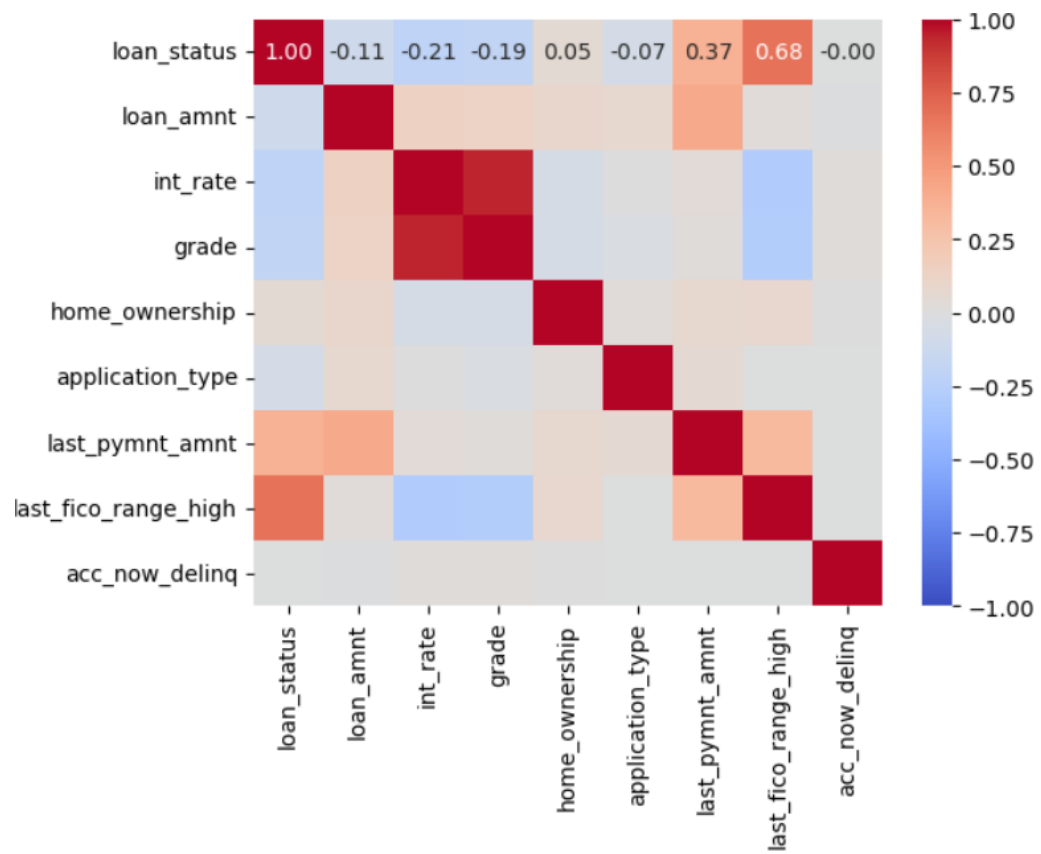
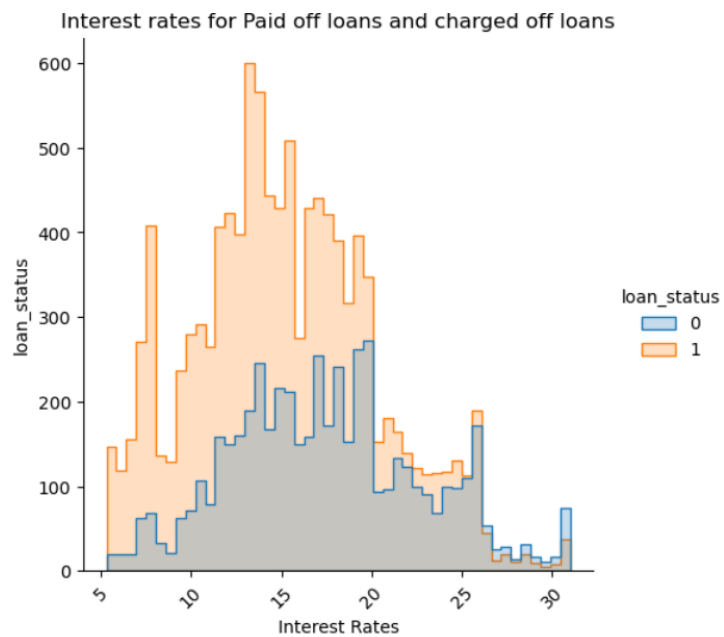- Modify the model and revaluate model

- Deployment

DATASETS

1. Lending café accepted loans data from 2007 to 2018(mor than 2million rows and 151 columns)

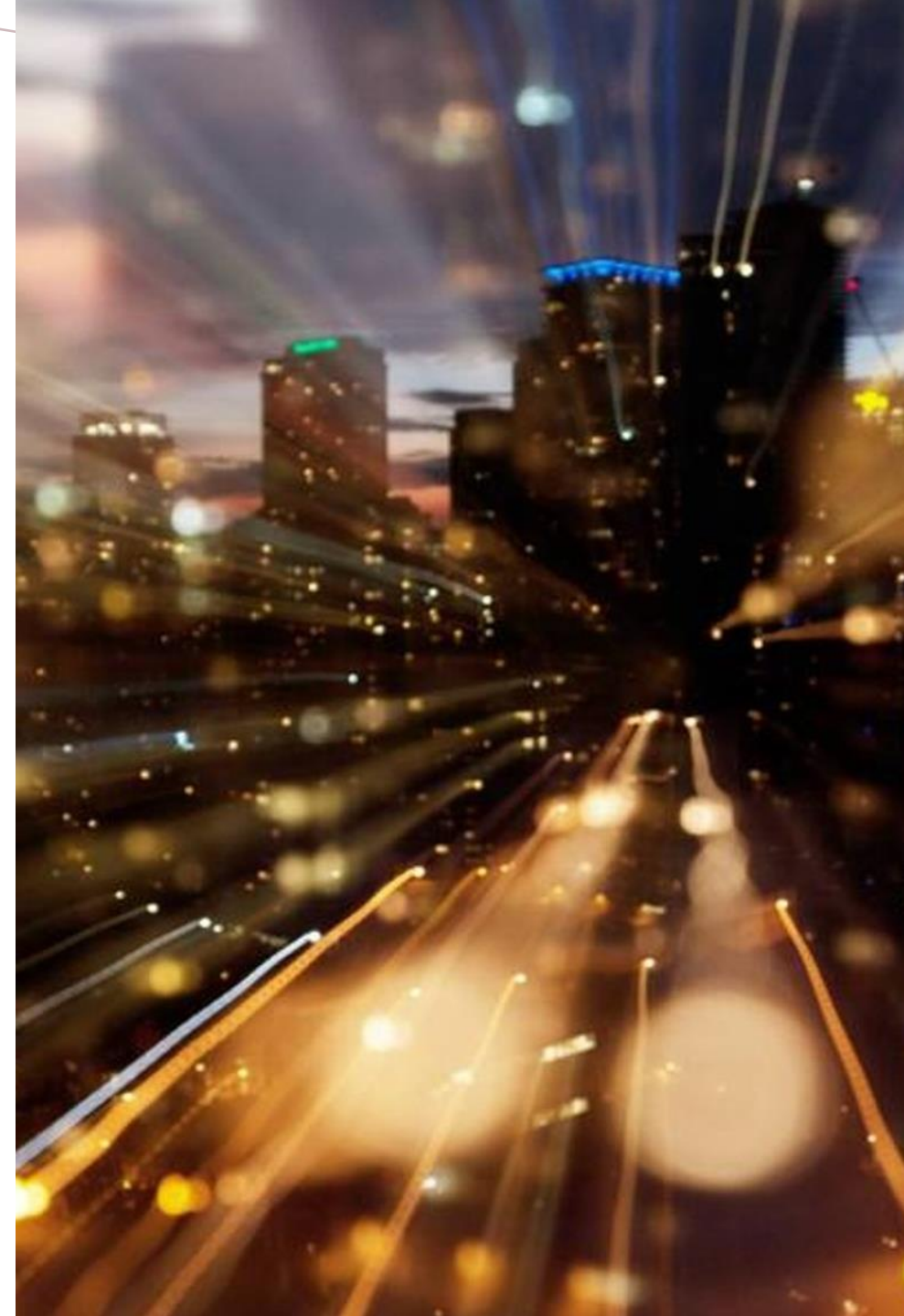Loan Amounts for Paid off loan and Charged off Loan

DATASETS

NEXT STEPS

Build regression model

Use Machine learning to train and test model

Build calculator for quick presentation of loan approval/reject and provide alternative scenarios to help lender/ small business owners to understand loan components.

Add Financial analysis into the model(i.e. current ratio, liquidity ratio)

THANK YOU

Abigail Deng