



Predicting Startup Failure

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Business Problem

S&P 500

3,911.45

↓ 8.98%

-385.69 1M

Sep 15, 10:57:26 AM UTC-4 · INDEXSP · Disclaimer

1D

5D

1M

6M

YTD

1Y

5Y

MAX

Key events >



Source: [Google](#)

Data

- Source: Crunchbase / [Kaggle](#)
- Over 50,000 observations; focused on subset of 6,200
- Features include funding metrics, location, timing & market category



Our Objectives

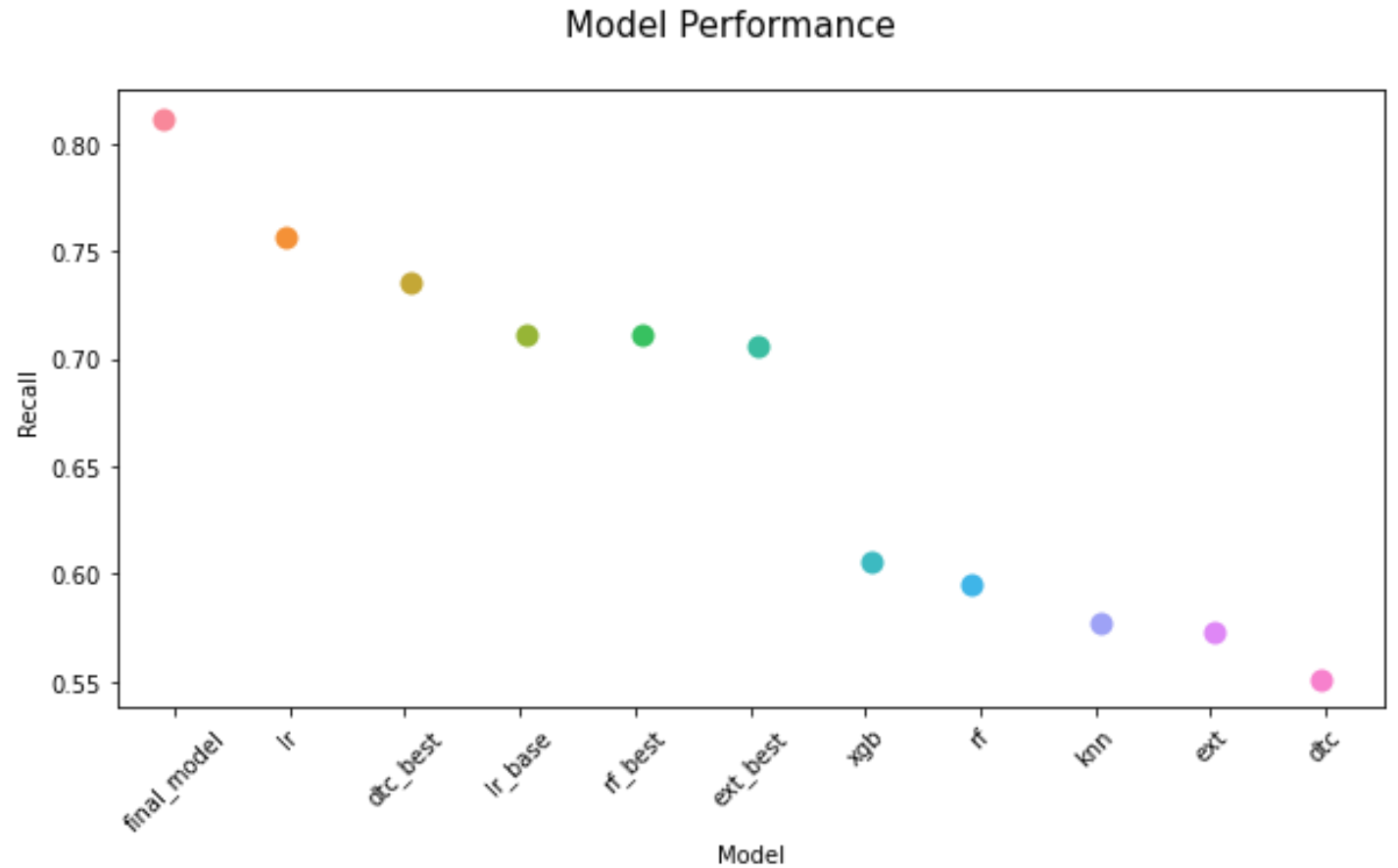
Targeting **status** (company acquired or closed), we would like to:

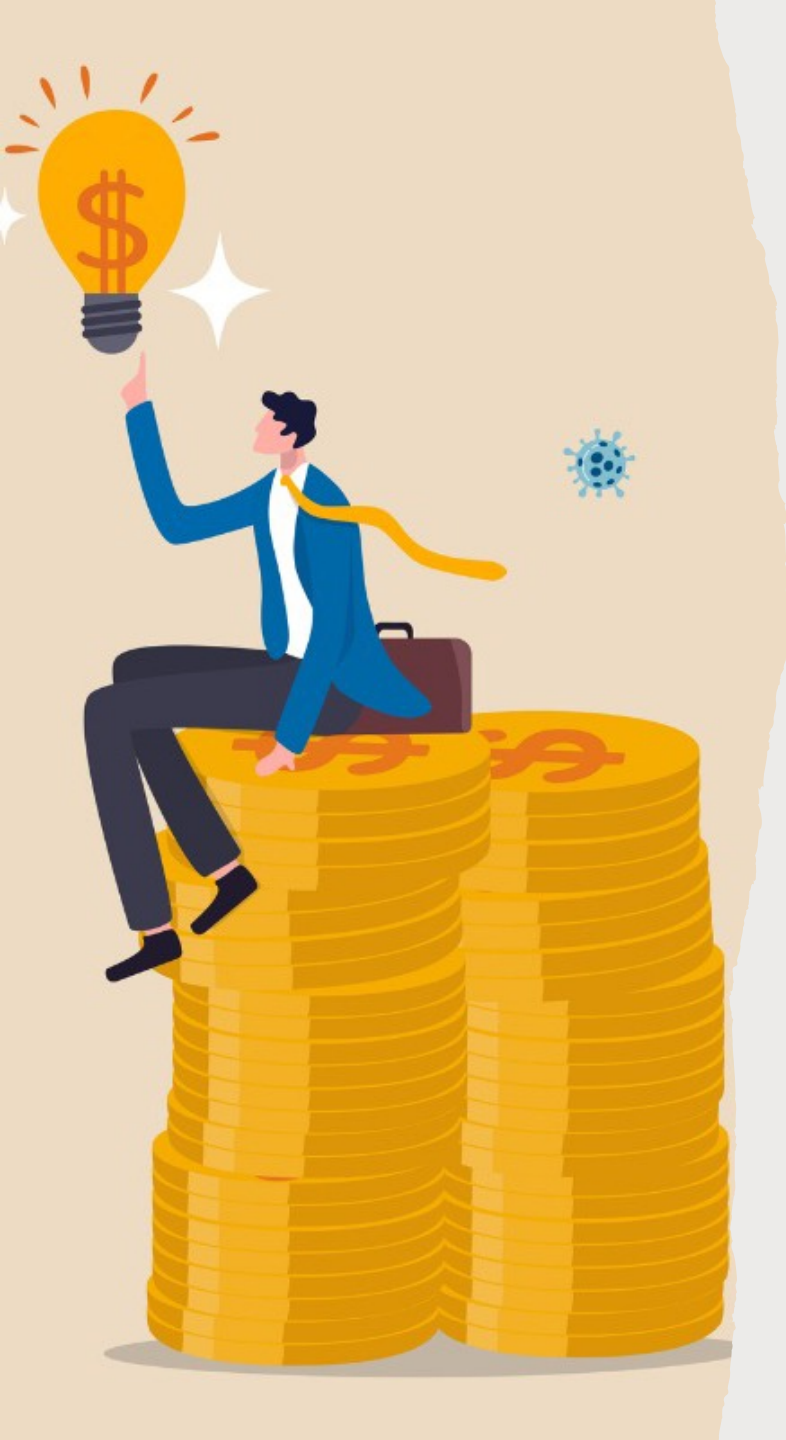
1. Correctly identify the companies that **failed**: recall
2. Keeping in mind **false positives**: ROC AUC score
3. Produce an **accurate** model



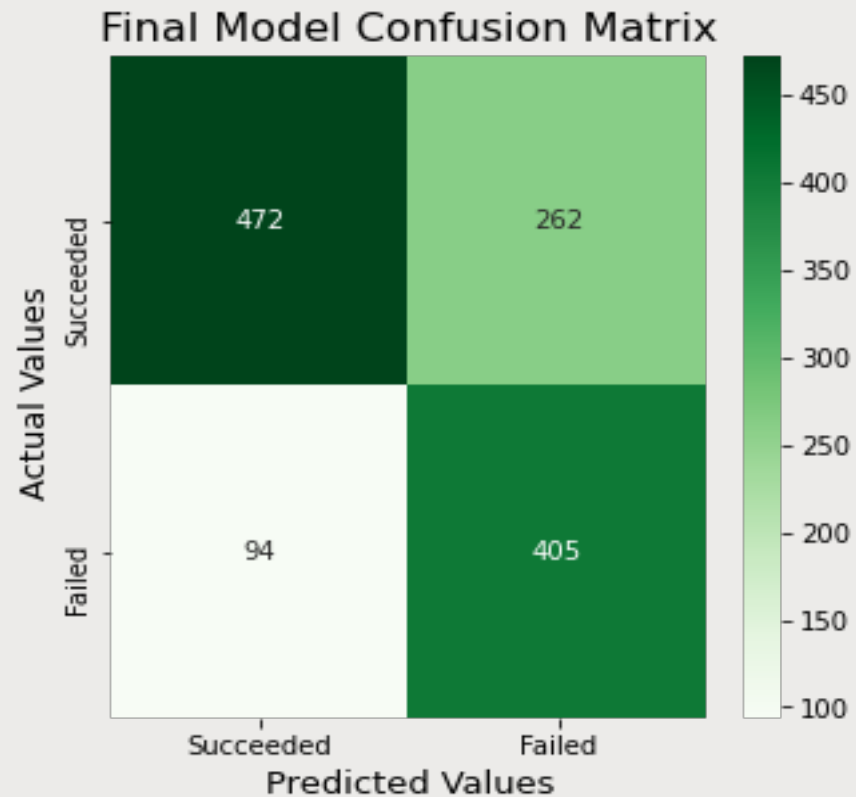


Model Selection





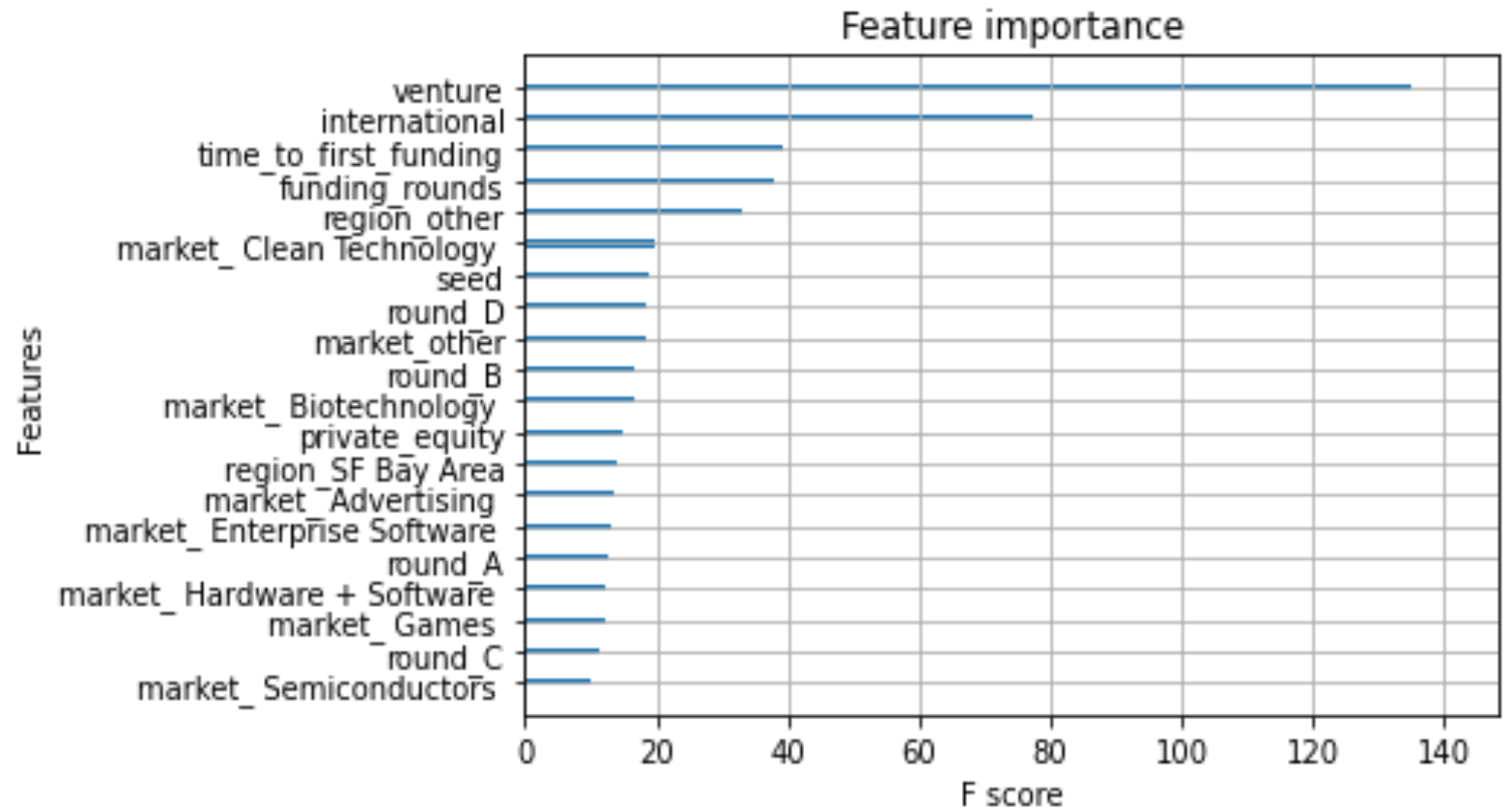
Final Model: XG Boost



- 81% Recall
- 73% ROC AUC
- 71% Accuracy



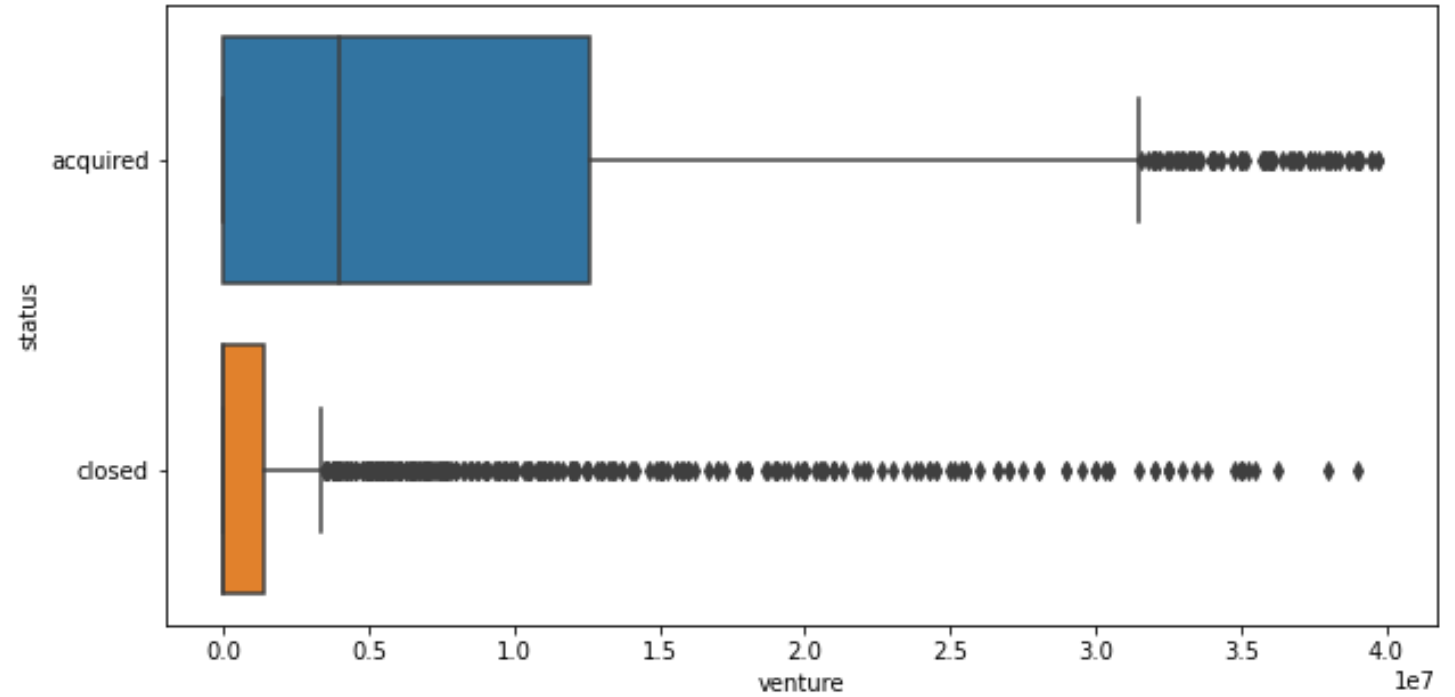
Final Model: XG Boost



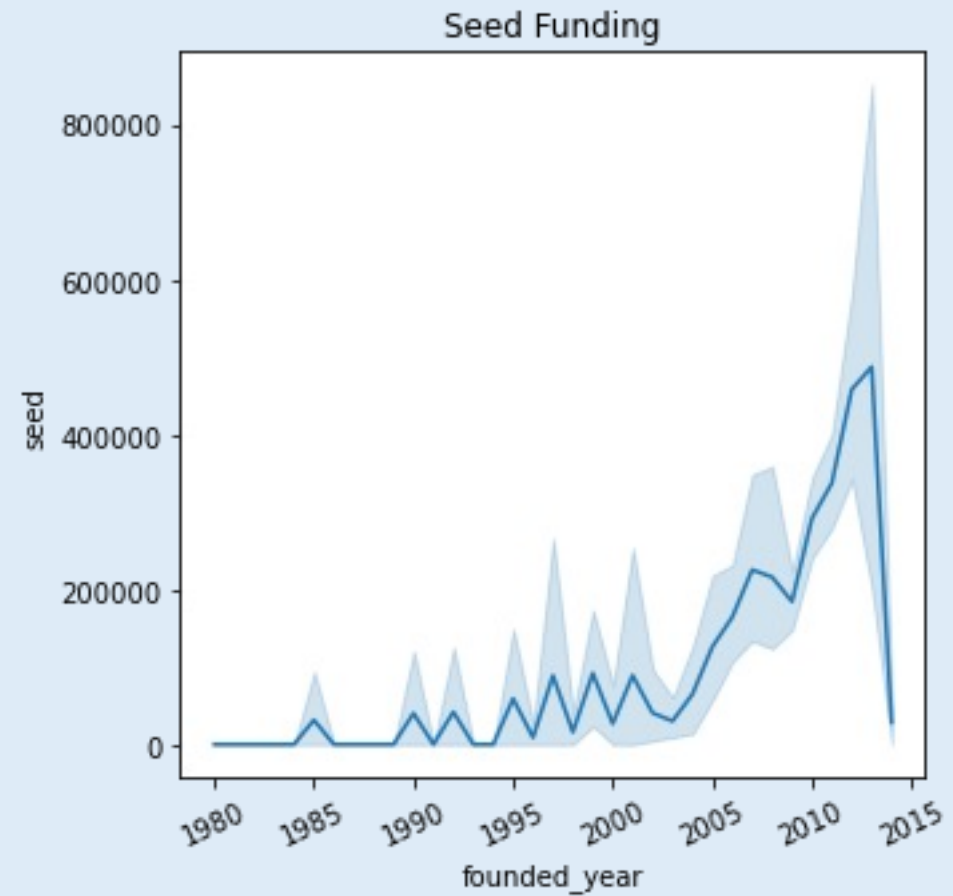
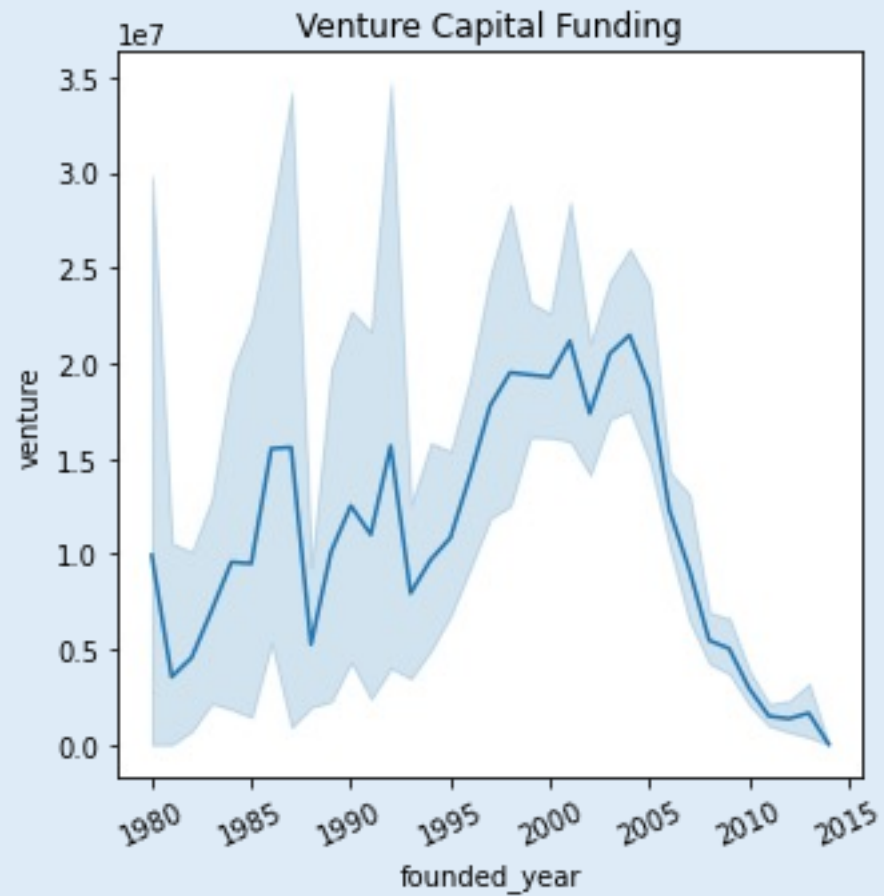


Conclusion

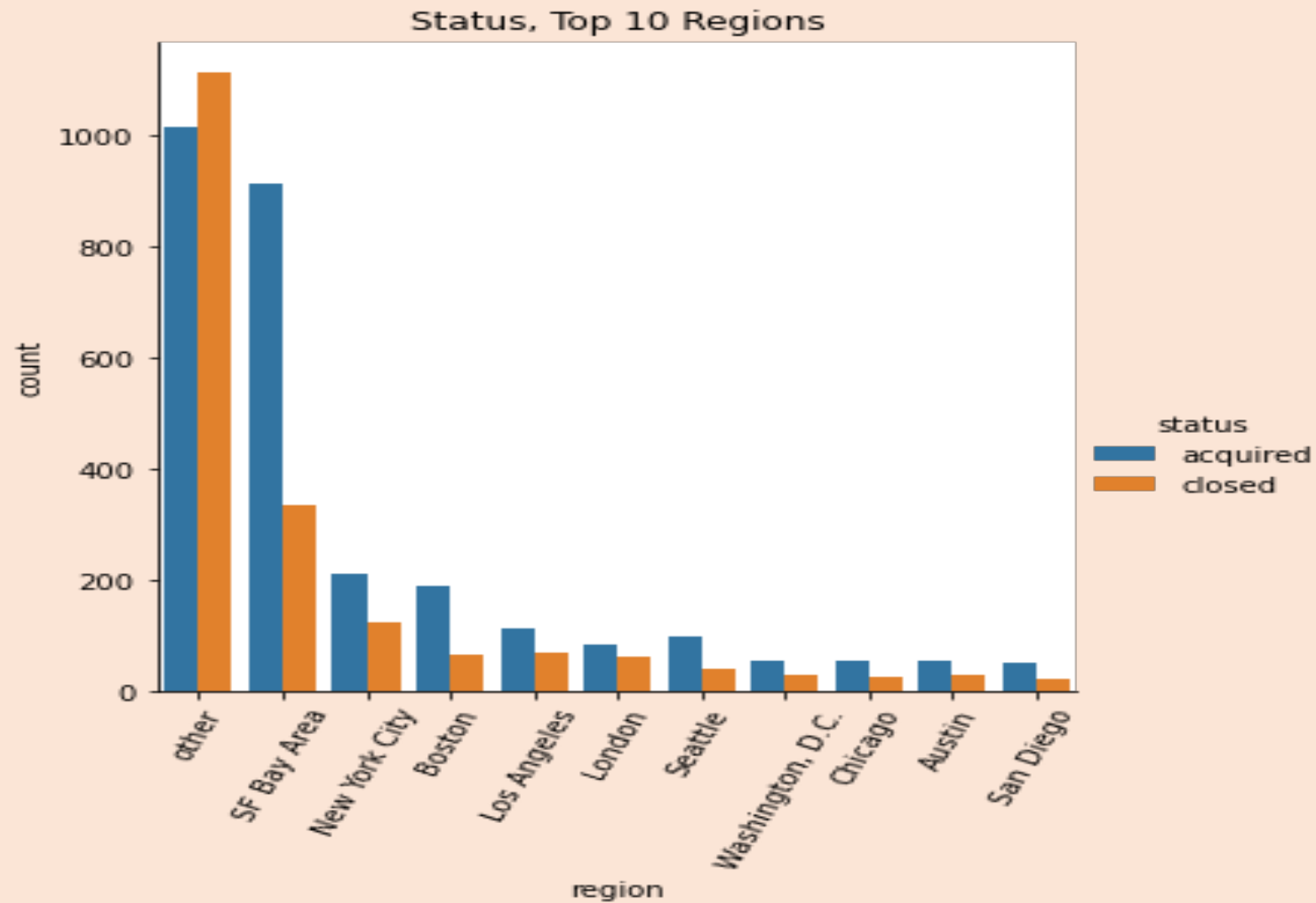
Funding First



Timing Matters



Location, Location, Location





Next Steps

- *Source more recent data*
- *Use economic indicators to improve prediction*
- *Separate U.S. and international companies, creating separate models for each category*

If any questions, reach me at ntdoris2@gmail.com. Thank you!