IPO "Success" Prediction

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Outline

- **Background**

- **Business Problem**

- **Data and Methods**

- **Model**

- **Findings**

- **Conclusions and Future Steps**

Background

IPO Process

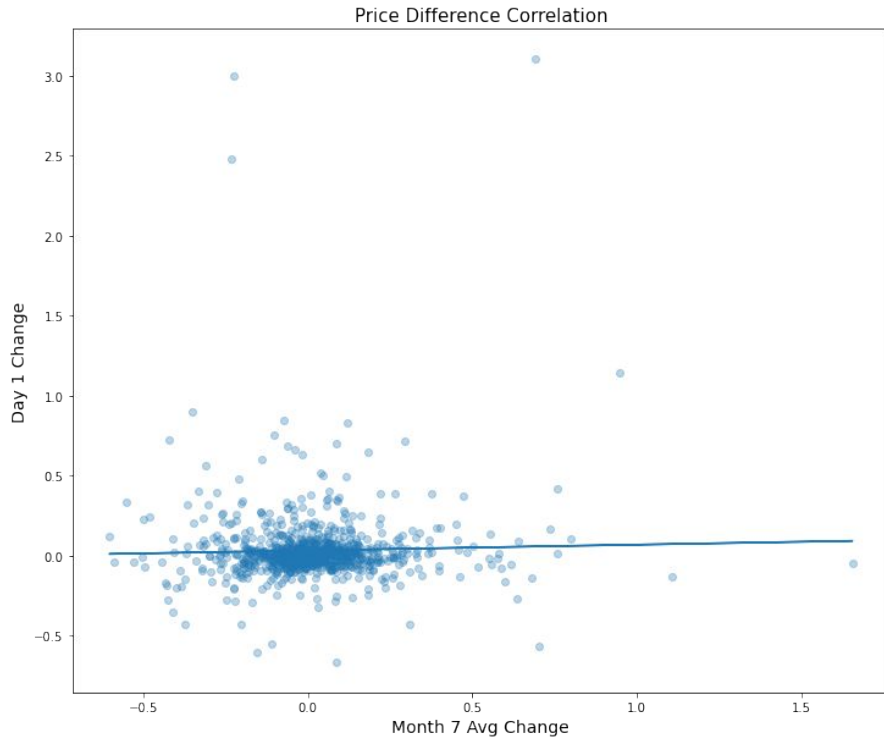Select Underwriter(s)

Due Diligence

Pricing

IPO Day

Business Problem

There is a pretty large pricing / trading disparity mostly attributed to the non-transparent IPO process.

Is there a way to make IPO results more predictable?

Hot IPOs don't imply future stock success

Price Difference Correlation

Data

3,800 traditional US IPOs analyzed

Sources:
- Yahoo Finance
- Warrington College of Business
- IPOScoop

Methods:

Model Features

Qualitative	Quantitative
Sector	Time to IPO
Rollup	Day 1 Returns
Dual-Class	Month 7 Returns
VC-backed	
Tech IPO	

Methods:

Data Visualization

Rollup Dual Class VC-backed Tech IPO	Time to IPO	Day 1 %	Sector	Month 7 %	Pre-IPO Net Income Loss	Cash & Cash Equivalent
Warrington College of Business	Mix	Yahoo Finance			SEC 10Ks	
		IPO Scoop				

Model 1: Random Forest
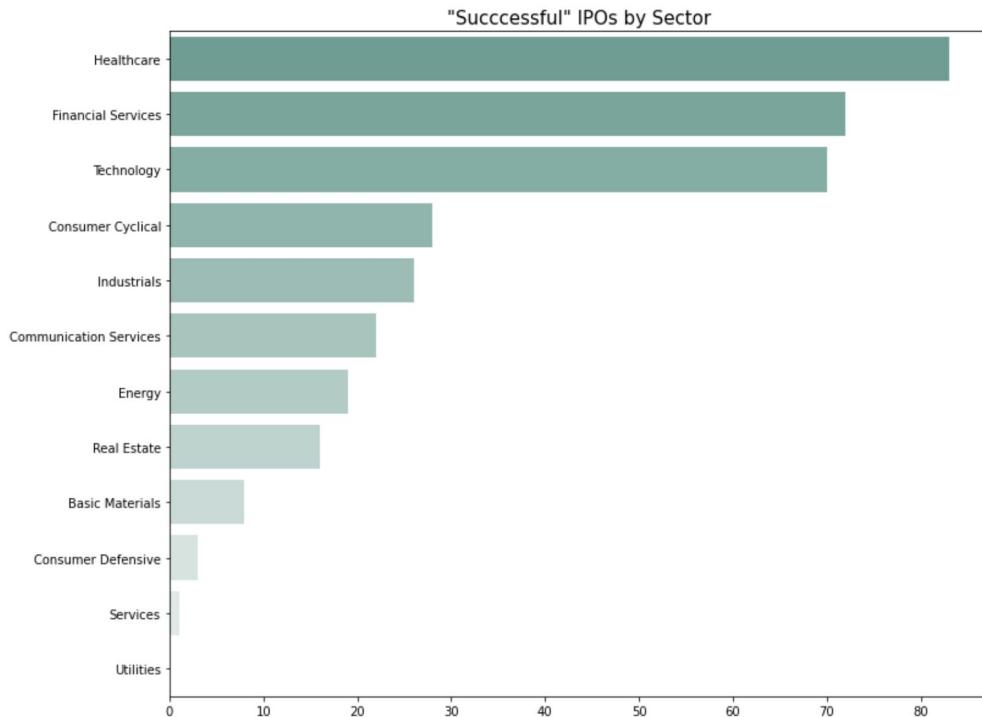
Model 2: XGBoost

Removed
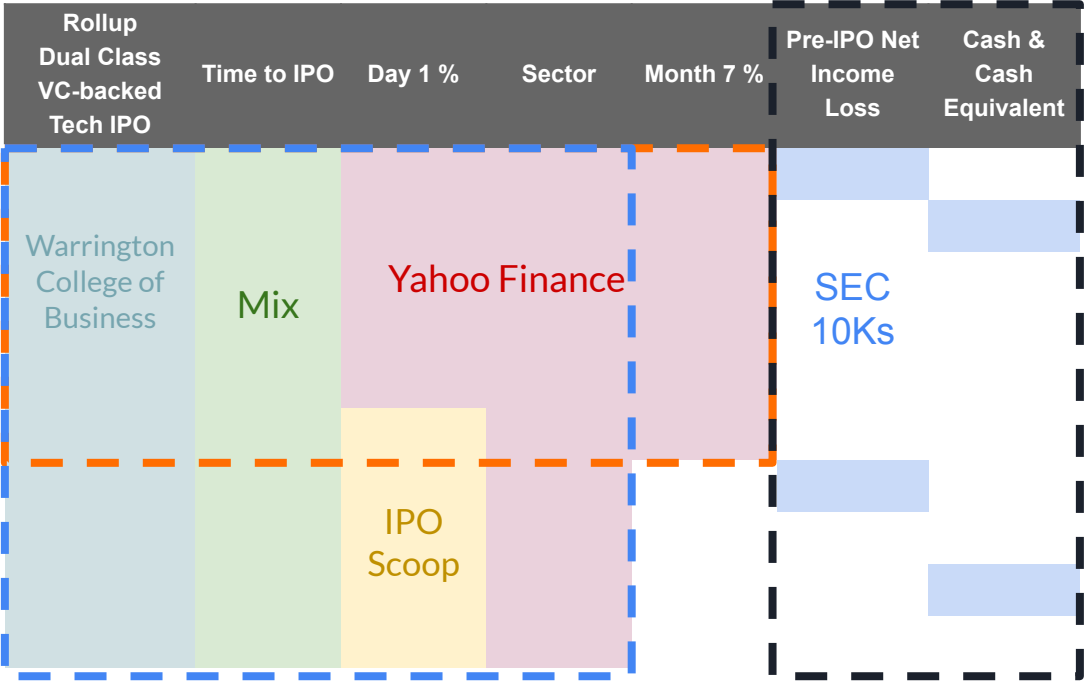
What is Success?

IPO success is defined as meeting one of these two requirements:

1. **Enterprise value to revenue ratio** (top 25th percentile or above 4.27x)
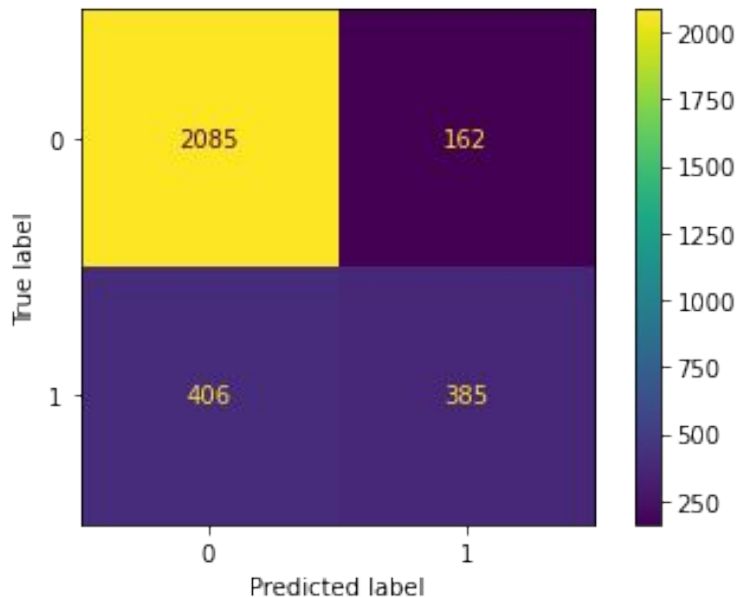2. **Gross margin** (top ~80th percentile or above 65%)
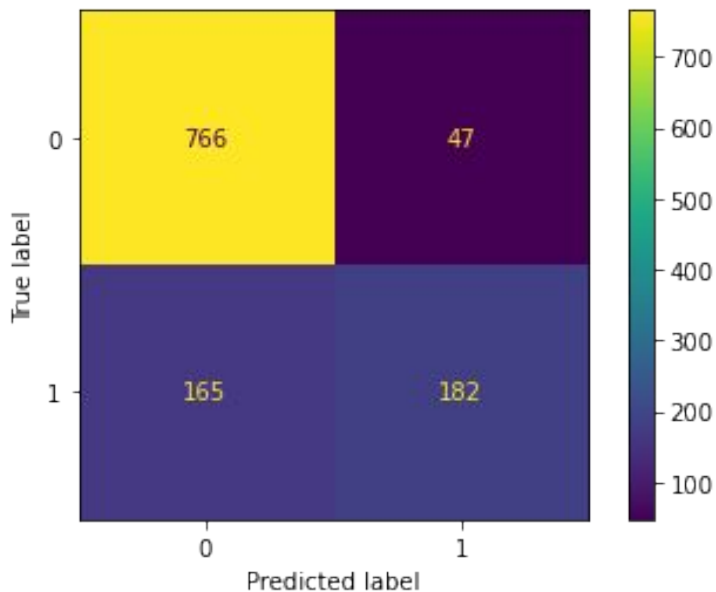
Most Successful Sectors

"Succcessful" IPOs by Sector

Model 1: Random Forest

Successes were predicted correctly 77% of the time

Model 2: XGBoost

Successes were predicted correctly 77% of the time

Conclusions & Next Steps

- **IPOs are still hard to predict, but not impossible**
- **Expand dataset by features and rows**
  - Enhance features to represent "timing" better
- **Expand to international companies**

- **Redefine Success to include more consistent timeline**

Thank you!

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