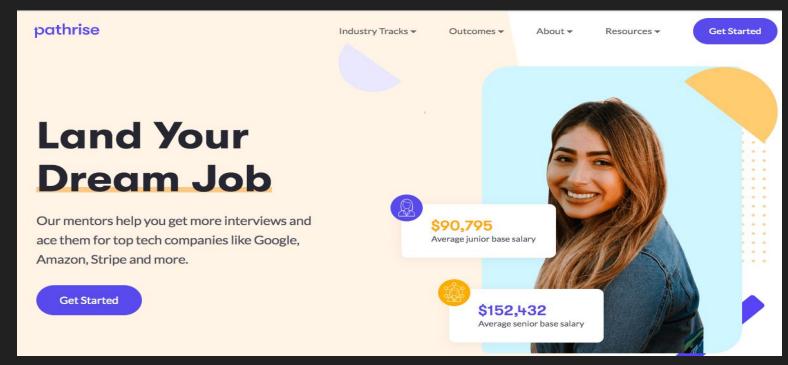# Delivering Insights on Placement of Pathrise's Fellows

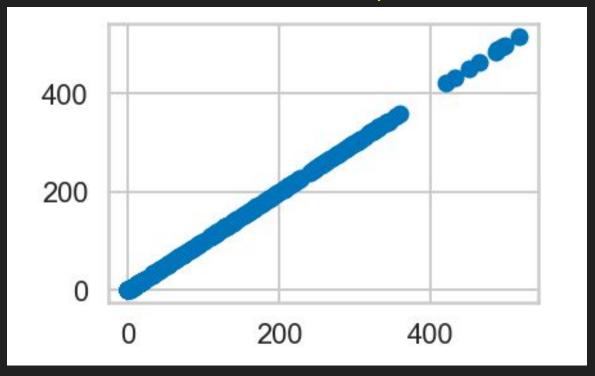## By Sam Okoye

Pathrise Statement of Concern

On average, for fellows who stayed with Pathrise after their free trial period, it takes about 4 months to receive a final job offer. However, there is a lot of variation in fellows' outcomes. Being able to predict how fast every single fellow is going to find a job is crucial for Pathrise.

What Pathrise Wants

Derive insights around if a fellow will ultimately be placed at a company and how long until a placement can be expected.

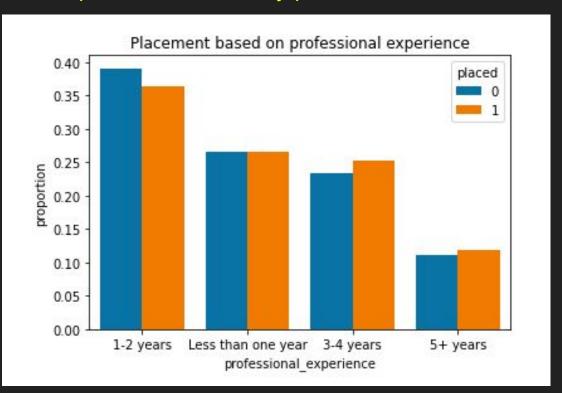# Results from the Analysis--Linear Regression

Best model was the Sklearn built-in model with Rsquare value of 1.

Results from the Analysis--Linear Regression

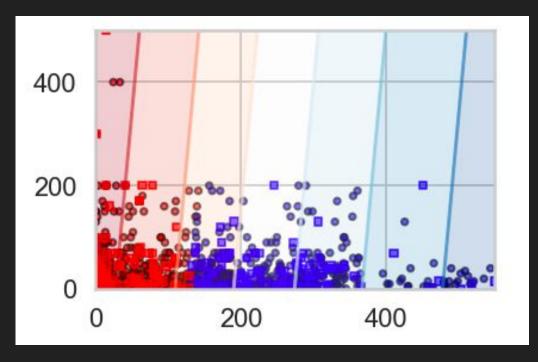Fellows with 3+ years experience are mostly placed within the 3-5 months period

Alot of early career fellows enroll in the program.

Results from the Analysis--Logistic Regression

Best model was Black Box Grid Search with 65% accuracy predicting fellow's placement.

Key:
Blue means placed
Red means non-placed

Training and Modeling

- 70% of the data were trained, and testing was done on 30%.
- 5 Models were built and tested during linear regression before choosing the best model. The tested models that performed below 65% are:
1. Random Forest→ 43% accurate with standard deviation of ~0.069.
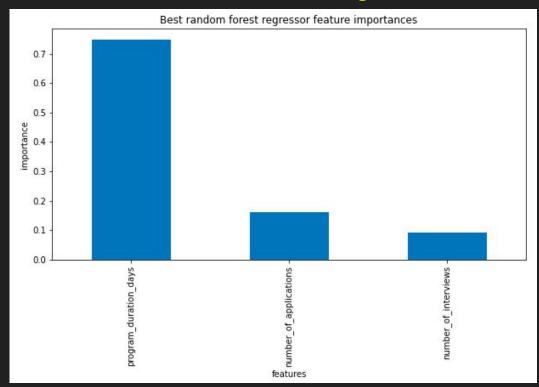2. Ordinary Least Squares→ 0.3% accurate with condition number of 4.84

Training and Modeling

Linear regression models that performed below 65% are:

3. Multiple Linear Regression → 7.9% accurate, condition number of 3.84e+3.

4. Avoiding Redundancy → 6.8% accurate, condition number of 143.

Training and Modeling
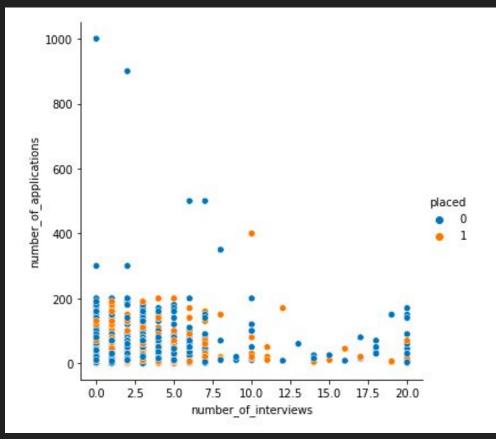
Best random forest regressor feature of importance

Best random forest regressor feature importances

Order of Importance are:
1. Program duration
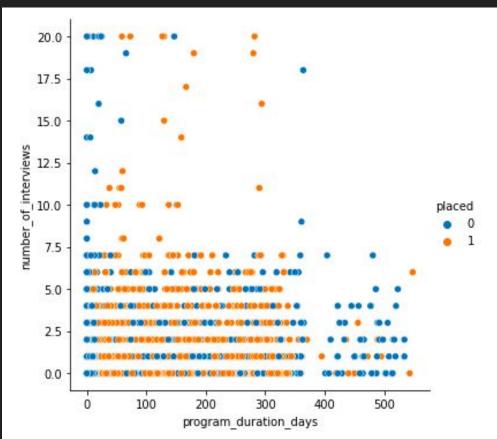2. Number of applications
3. Number of interviews

Exploratory Analysis

Relationship between number of Interview and number of applications plot

1. ~400 applications resulted in placement compared to 1000 applications by non-placed fellows.

2. Most placements happened within 1 and 11th interview.

Exploratory Analysis

Relationship between number of Interview and program duration plot

1. Most placements happened with 1 and 300 days in the program.

2. The number of interviews and placement decreases as fellows stay beyond 330 days.

Conclusion and Recommendation

- There is no one factor affecting fellows' placement at Pathrise, however having 3+ years professional experience should be highly encouraged.
- Since only 37% of fellows get placed, and the placement mostly happened within 300 days I would recommend the program be shorten to 450 days instead of 1 year.
- The dataset didn't give clues about fellows' motivation or other personal reasons that could have impacted their placements.

Recommendations

- I would recommend Pathrise tracks number of connections each fellows make. Networking seems to be one of the helping factors for landing a job.
- There was no information on the quality of resume each fellow used during the program. I would recommend Pathrise creates a tracking system for resume quality. from my experience some career coaching entities hardly know about quality of resume content. They only help job seekers with formatting.
- Provide one-on-one mentor that would go over fellows' resume before they submit it for job application. Sounds like a hard job but it will help increase the 38% of placement as we seen on this analysis.

Thank You

Thanks for listening, and special thanks to my mentors Varun Bhatia, and Luka Anicin for the unwavering support I have gotten.