Reddit Posts Prediction Model

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Problem Statement

Can we identify different keywords used by novice vs experts in Engineering and use them to predict subject matter difficulty level of a post?

Data Gathering

- Scraped 2000 Reddit Posts - Pushshift API

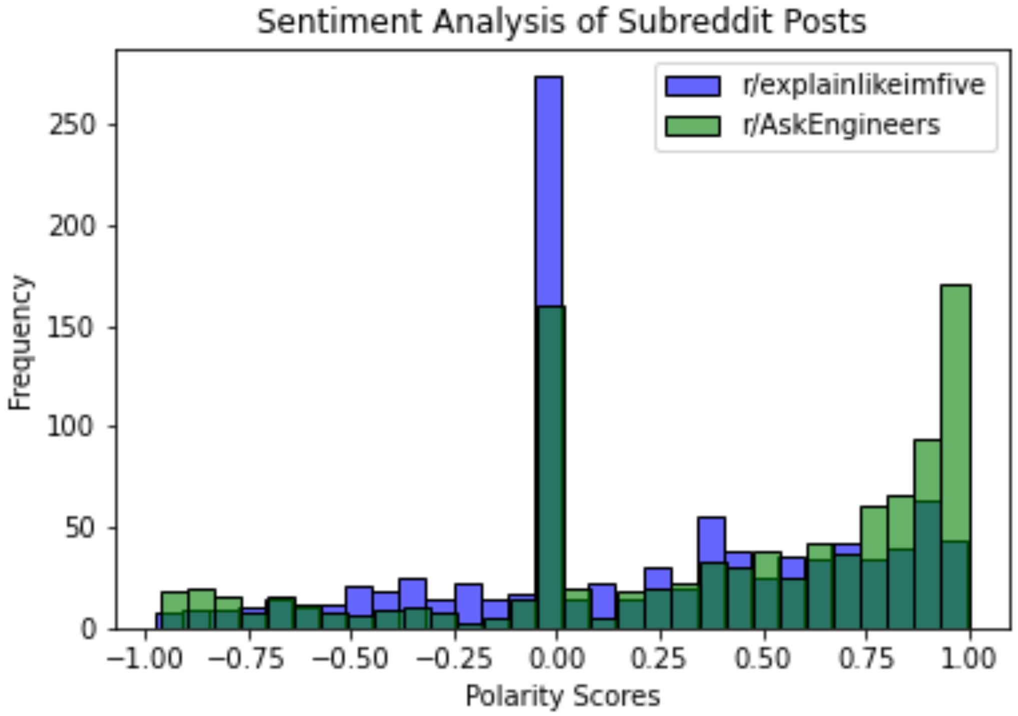
1. r/explainlikeimfive
2. r/AskEngineers

- Language - layperson-friendly vs technical
- Data – title, selftext, subreddit, created_utc

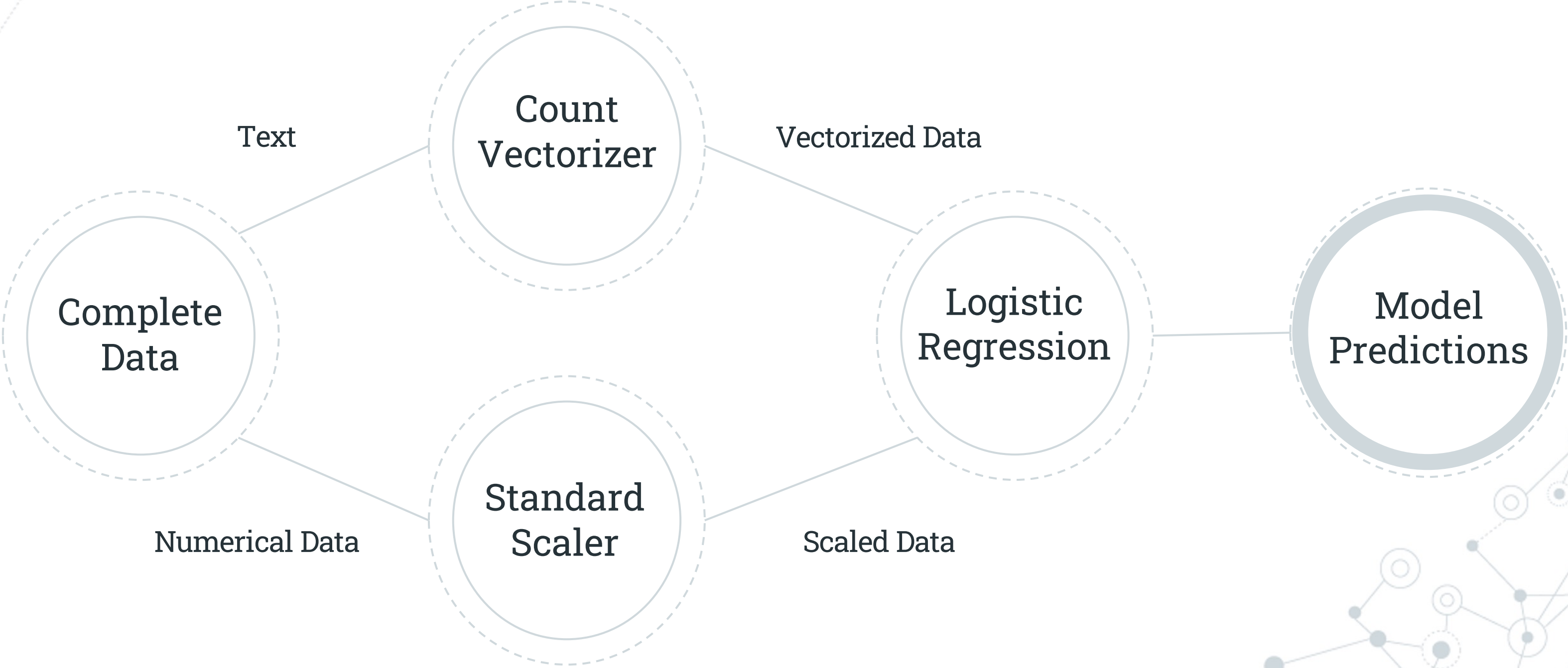
Data Processing

- Data Cleaning
- Feature Engineering
- Natural Language Pre-Processing
- Target Variable
- Train/Test Split

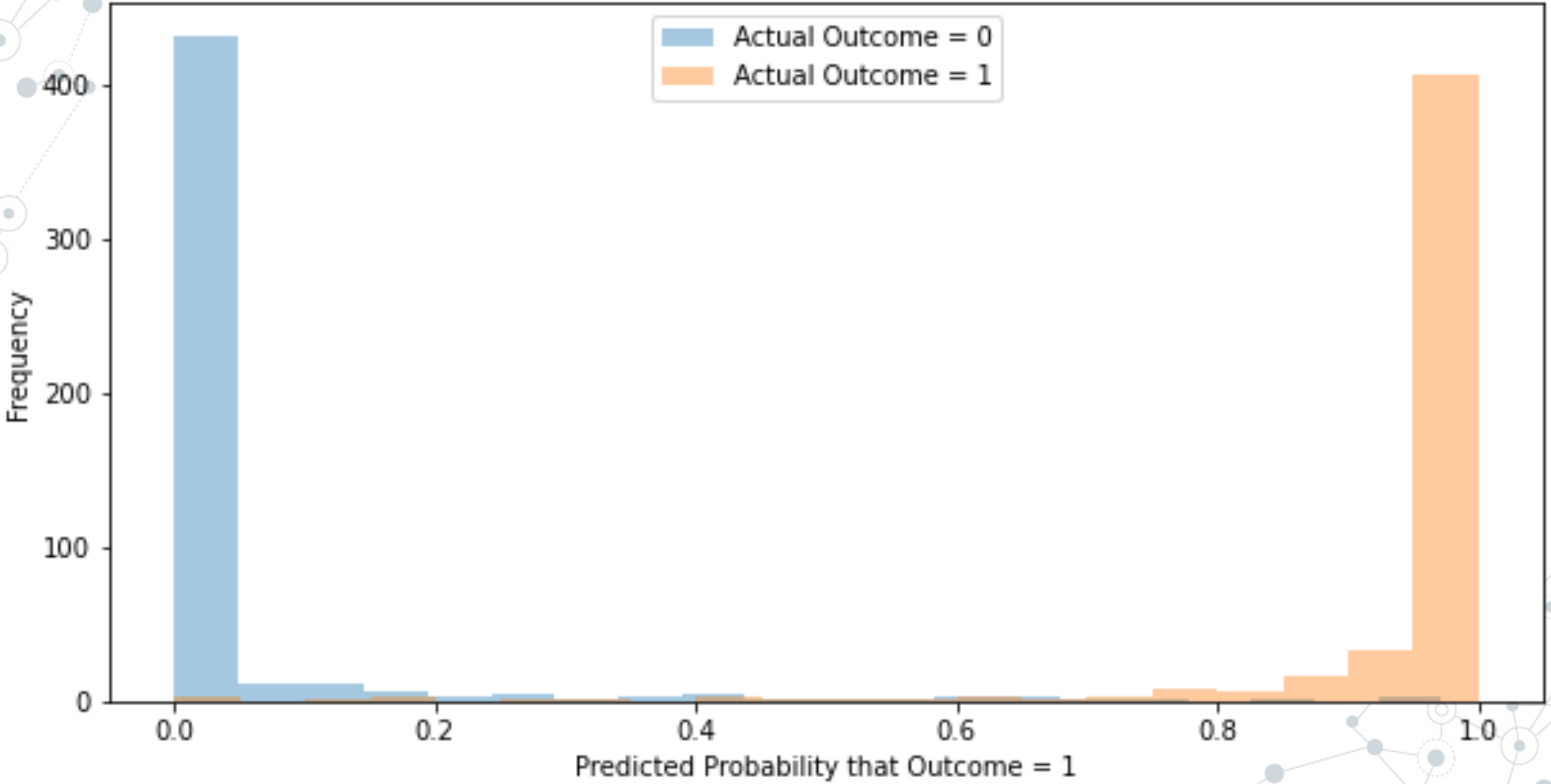
Sentiment Analysis



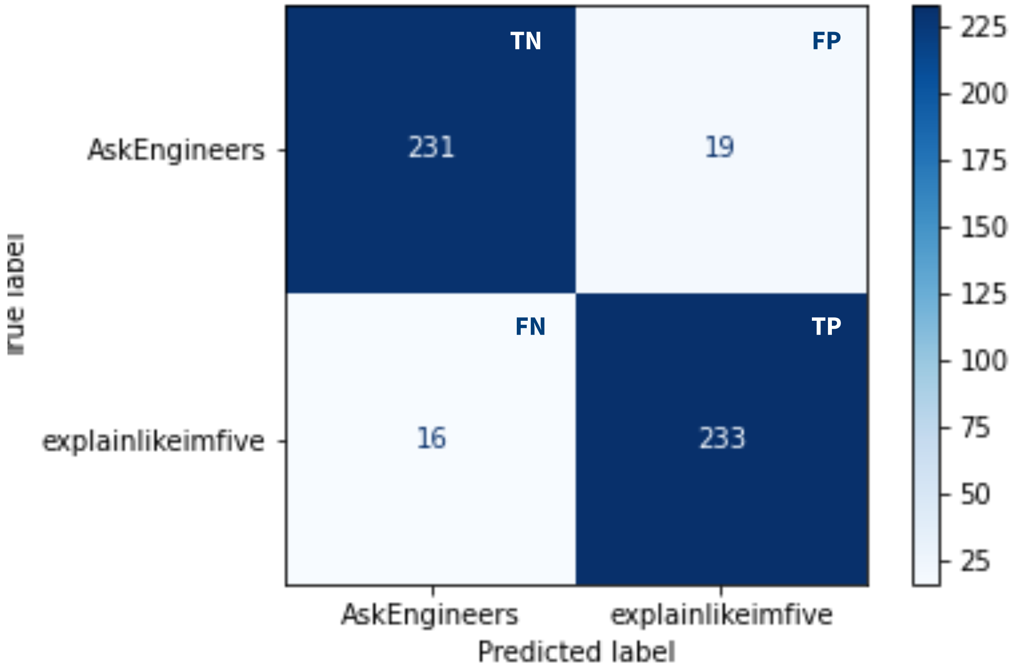
Model Walkthrough



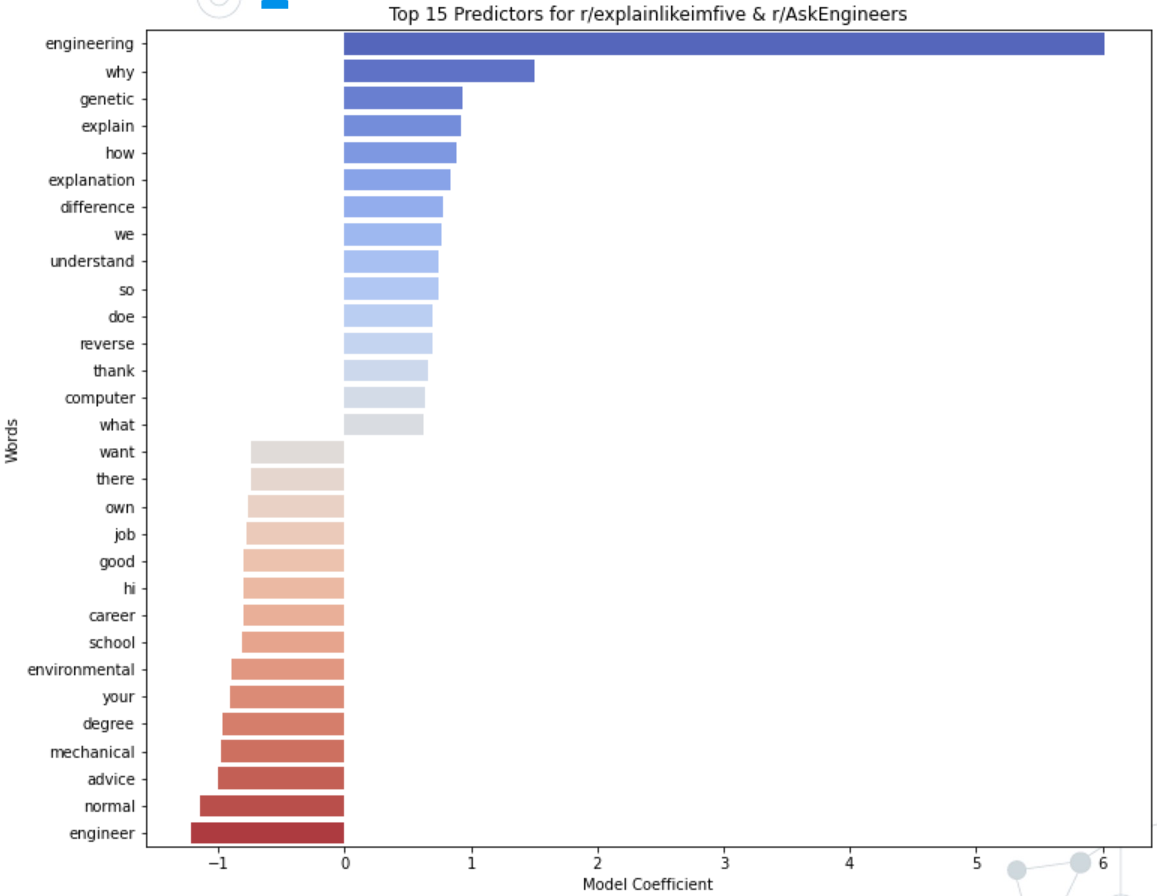
Predictions of the Model



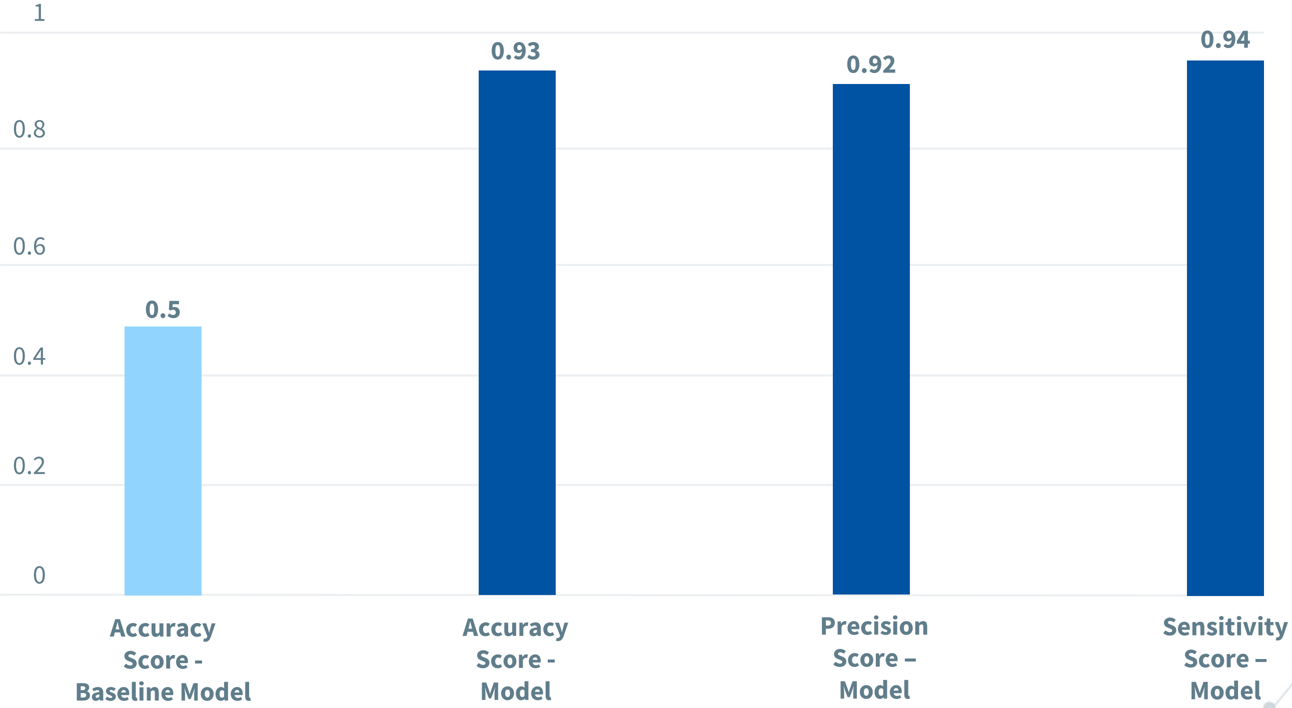
Confusion Matrix



Top Model Predictors



Evaluation Metrics



Conclusion

- The model accuracy - 93%
- r/explainlikeimfive - trying to understand things with why, how and what
- r/AskScience - specific to the field
- Based on the words, a post can be categorized into novice or expert level

Recommendation

- Model can be improved by incorporating multiple algorithms
- Model can be scaled and used to categorize articles on the level of subject matter difficulty, could be used alongside *reading time* feature.

Thanks!

Any questions?