FE 595

Financial Systems Technology

Final Project

Sentiment Analysis

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Objective

There are a lot of companies that have their business pages on Facebook where users post their views and the companies reply to the post. This ideology has inspired us to create a project of our own, to fetch the post entered by the user on particular company's page on Facebook. The primary aim of the project is to see that if the post by the users are positive, neutral or negative. Also, we are using these post or input data to train our model. The applications of sentiment analysis are broad and powerful. The ability to extract insights from social data is a practice that is being widely adopted by organizations across the world.

Shifts in sentiment on social media have been shown to correlate with shifts in the stock market. Obama administration used sentiment analysis to gauge public opinion to policy announcements and campaign messages ahead of 2012 presidential election. Being able to quickly see the sentiment behind everything from forum posts to news articles means being better able to strategize and plan for the future.

It can also be an essential part of your market research and customer service approach. Not only can you see what people think of your own products or services, you can see what they think about your competitors too. The overall customer experience of your users can be revealed quickly with sentiment analysis, but it can get far more granular too.

The ability to quickly understand consumer attitudes and react accordingly is something that Expedia Canada took advantage of when they noticed that there was a steady increase in negative feedback to the music used in one of their television adverts.

Data

We are using live data instead of a existing dataset. Data has been scrapped off from Facebook based on the comments on AT&T and T-Mobile.

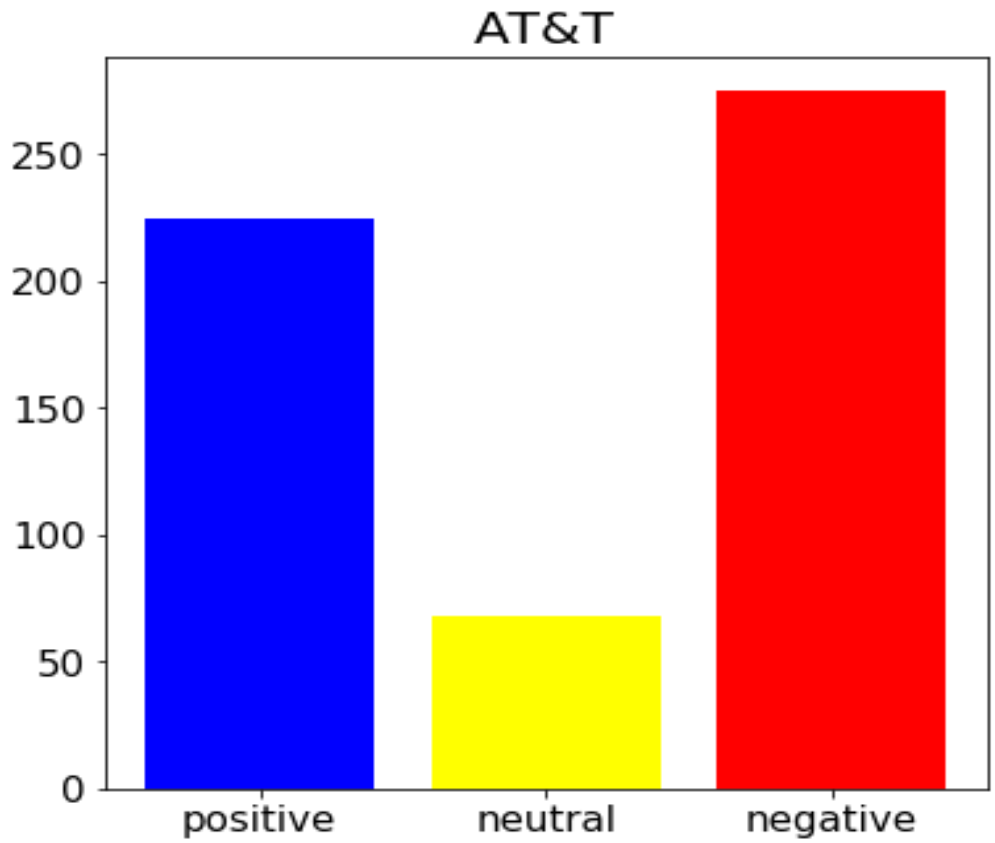
Methodology

Here is our 5-step process for this particular project

1. Web Data Scrapping
2. Scrapped data
3. Data preprocessing
4. Sentiment Analysis
5. Classification

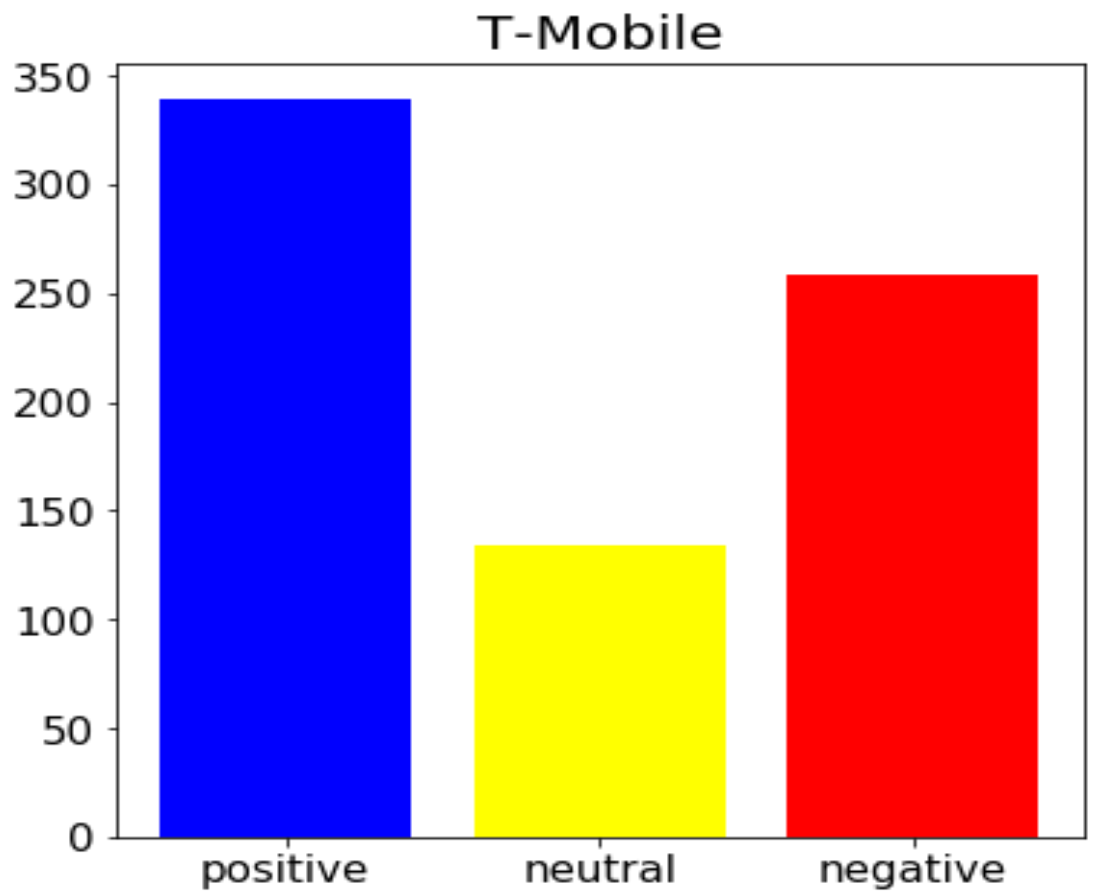
Results

AT&T



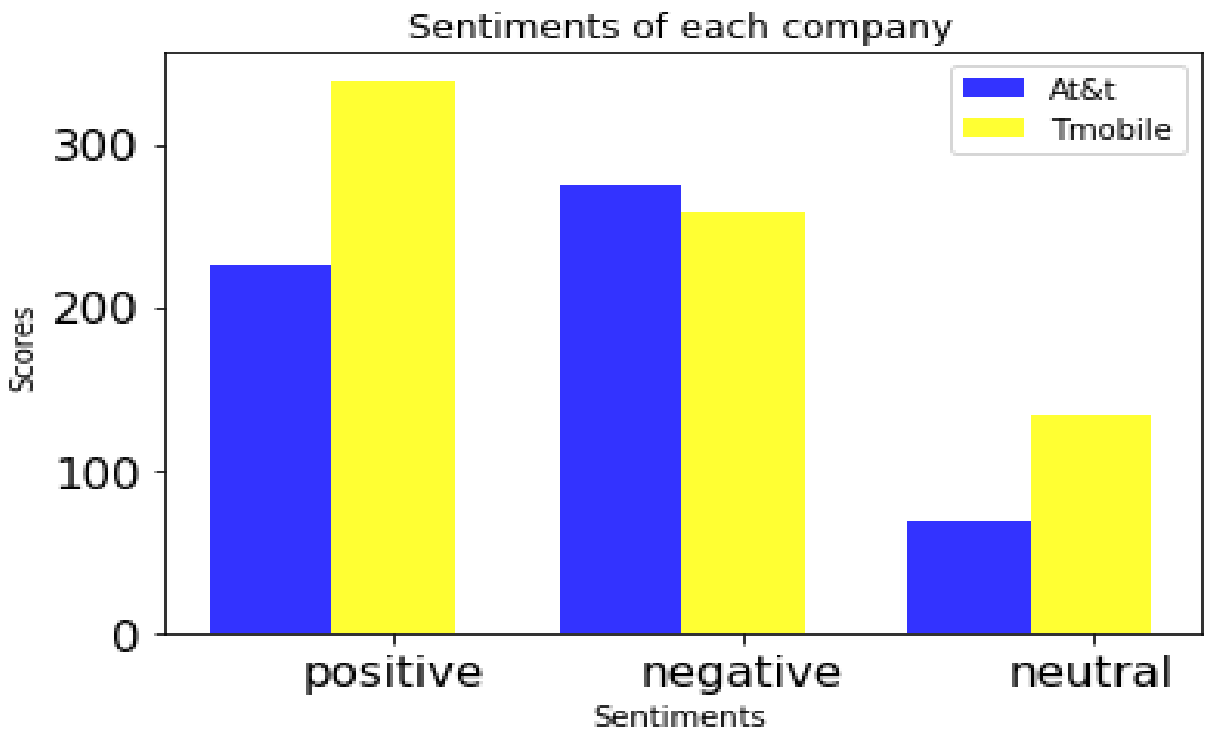
This particular graph clearly shows the kind of feeling people have towards AT&T. Majority of people have negative opinion about AT&T. There are positive comments as well which are quite high and there are a few which are neutral. We have chosen bar graph to display this information as this clearly depicts the trend between the comments.

T-Mobile



T-Mobile graphs shows us a positive trend compared to that of AT&T. Majority of people have a positive opinion about T-Mobile. The number of positive feedback for T-Mobile is much higher compared to AT&T.

Comparing the two companies



When we compare both the graphs together, we can clearly say that people have much positive opinion about T-Mobile compared to that of AT&T. Also, T-Mobile has fewer negative sentiments but has a higher number of neutral sentiments. When you analyze the neutral comments, we can say that people either have a positive or a negative feedback when it comes to AT&T, but its not the same with T-Mobile as some people are still confused about them and are not able to decide if T-Mobile is good or bad.

Future Scope

We can also try using different classification models and train them to get better accuracy. Linear SVC and Logistic Regression can be used. It is not only limited to AT&T and T-Mobile but also for different Facebook pages and different websites. Also, we can use the data for photos and videos where we can compare likes, dislikes and share options to perform sentiment analysis

Conclusion

While comparing the sentiment analysis of the posts in T-Mobile and AT&T's company page on Facebook, using less data were different from using more data. The accuracy of the model after training and predicting came out to be low while using limited data. After using more data, the accuracy of the model increased as it was trained more