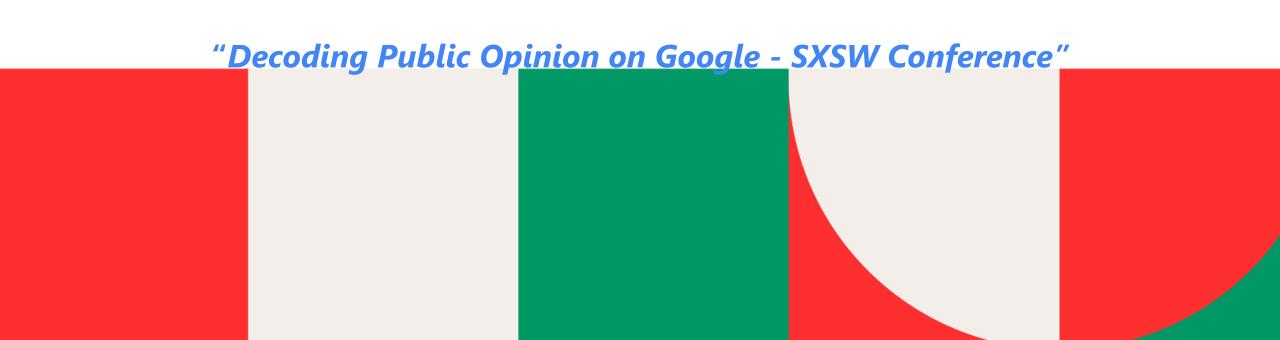
# From Sentiments to Strategies: Building an NLP Model for Brand Engagement



### Introduction

In today's hyper-connected world, social media is a critical tool for shaping brand perception and understanding public opinion.

Millions of users share their thoughts on platforms like Twitter, making it a valuable resource for companies like Google to gather insights, adapt to trends, and make data-driven decisions.

While Google is a leader in technology and innovation, public perception can fluctuate during high-profile events such as SXSW, where announcements of new products and company vision are made.

Understanding how users perceive Google compared to its competitors is crucial for maintaining brand loyalty, improving user experience and identifying areas for growth.

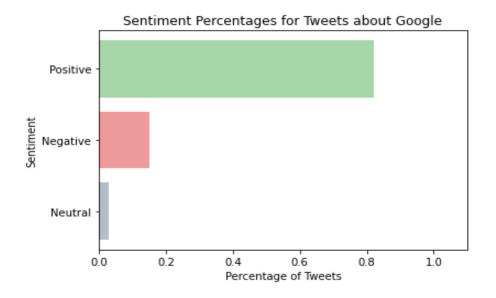
### Overview

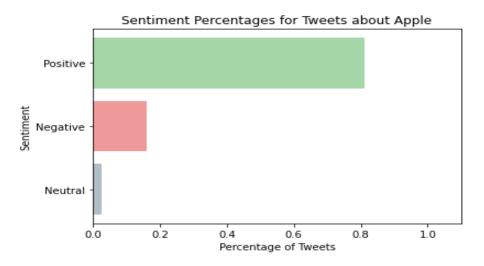
In this presentation we will cover:

- Insights on public opinion about Google and its product announcements during SXSW
- Compare sentiment trends for Google and Apple to identify strengths and weaknesses in brand perception
- An overview of machine learning models for future sentiment analyses

### **Brand Perception**

- 82% of all tweets related to Google were positive, slightly higher than Apple's 81.1%.
- Negative sentiment for Google was 14.9%, lower than Apple's 16.1%, suggesting Google had a slightly stronger overall brand perception during the events





### **Specific Products & Services**

We generated wordclouds based on the brand and its products for different sentiments. We will look at :

- General sentiments during the SXSW conference. What created buzz? What were the Negatives?
- Positive and Negative Sentiments per product
- Competitor sentiments : Apple sentiments

# Google





### **Google Products-Positives**







- Excitement about Event: Many tweets show enthusiasm about a "party" at Lustre Pearl.
- Positive Buzz from Marissa Mayer's Talk: Keywords like "new social", "social network", and "Marissa Mayer" suggest that her talk generated significant positive attention for Google's brand. Insight: Google may want to do this more often.
- Android Apps and Awards: The app Gowalla is frequently mentioned, indicating engagement with the Choice Award.
- User Preference for Google Maps: The mention of "map" under Google's products highlights the popularity of Google Maps

# **Google Products-Negatives**

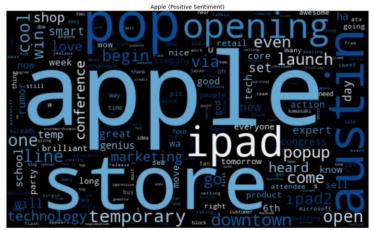






- Frequent mentions of Microsoft Bing suggest users prefer Google's search engine.
- **Mixed Reactions to Google's Social Network:** Despite positive mentions, the new social network also appears in negative tweets, indicating user concerns or dissatisfaction.
- **Negative Feedback on Android OS:** Words like "buggy", "replaced", and "painful" highlight frustrations with Android, which potentially might offer an opportunity for Apple's iOS to capture dissatisfied users. Insight: Google should look into android and ensure efficiency

# **Apple Products-Positives**











- •The word "free" comes up a lot for iPad and iPhone apps as well as other Apple products, which may indicate that people enjoy these free products.
- •People are excited about the "new" iPhone so much so that words like "thank" and "love" occur frequently.
- •Apple's temporary pop-up store seems to be taken positively by the public in connection to the iPad 2 launch

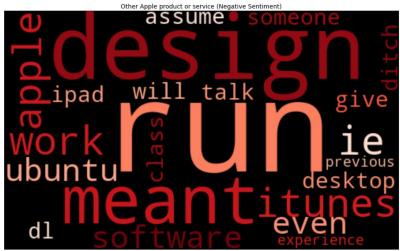
# **Apple Products-Negatives**











- •"3g" performance may be lacking since it is highlighted in the word cloud as well.
- •In comparison to other products, the Apple news app seems to be not very well liked and there seem to be some complaints about the designs of apps and iPads.
- Apple referred as a "fascist company".
- •Under other Apple products, we see that "iTunes" and "software" are coming up which may indicate that some users are having issues with these

#### Recommendations

#### **Enhance Android OS Stability & User Experience**

Address recurring complaints about Android OS bugs and app compatibility issues to improve customer satisfaction.

#### **Capitalize on Social & Experiential Marketing**

The Lustre Pearl party and "Circle" social network generated buzz—Google should expand interactive brand experiences at major tech events.

Engage more influencers and executives (e.g., Marissa Mayer's impact) to boost brand perception.

#### Improve Google's First-Party Hardware Strategy

Users frequently referenced Samsung as a preferred Android device—Google should refine google devices to better compete with premium alternatives.

Strengthen Brand Differentiation from Competitors
Leverage Google's open-source advantage and emphasize flexibility compared to Apple's closed ecosystem.

# **Machine Learning Tools**

#### With a Natural Language Processing Model, Google can:

• Automate sentiment classification from social media, enabling realtime monitoring of public opinion.



Logistic Regression

- 62% correct predictions on positive tweets
- 60% correct predictions on negative tweets
- 61% correct predictions on neutral tweets

BalancedRandomForest

- 64% correct predictions on positive tweets
- 65% correct predictions on negative tweets
- 50% correct predictions on neutral tweets

Logistic Regression was the best multiclass classification model with a recall macro score of 61%

#### **Conclusion**

Leveraging these machine learning models to monitor the general sentiment of events and products via social media platforms will allow:

- Google to stay on top of what people are saying about their competitors
- Google to generate key insights into where they should focus their resources to maintain their competitiveness in the market.