

### **ELON MUSK - THE CLIENT**

#### **Job Description**

Entrepreneur and business magnate. Founder, CEO, and Chief Engineer at SpaceX. Early-stage investor, CEO, and Product Architect of Tesla, Inc. Founder of The Boring Company. Co-founder of Neuralink and OpenAI.

#### **Net Worth\***

286.7 billions USD

#### **Fun Fact**

Sold about \$6.9 billion in Tesla stocks in the past weeks\*\*

\*Forbes, \*\*CNBC

### **SCOPE**

Monitor social media to understand how both, his persona and his business are being perceived in social media.



### **METHODS**

#### **What we will use**

- News and posts from from Reddit

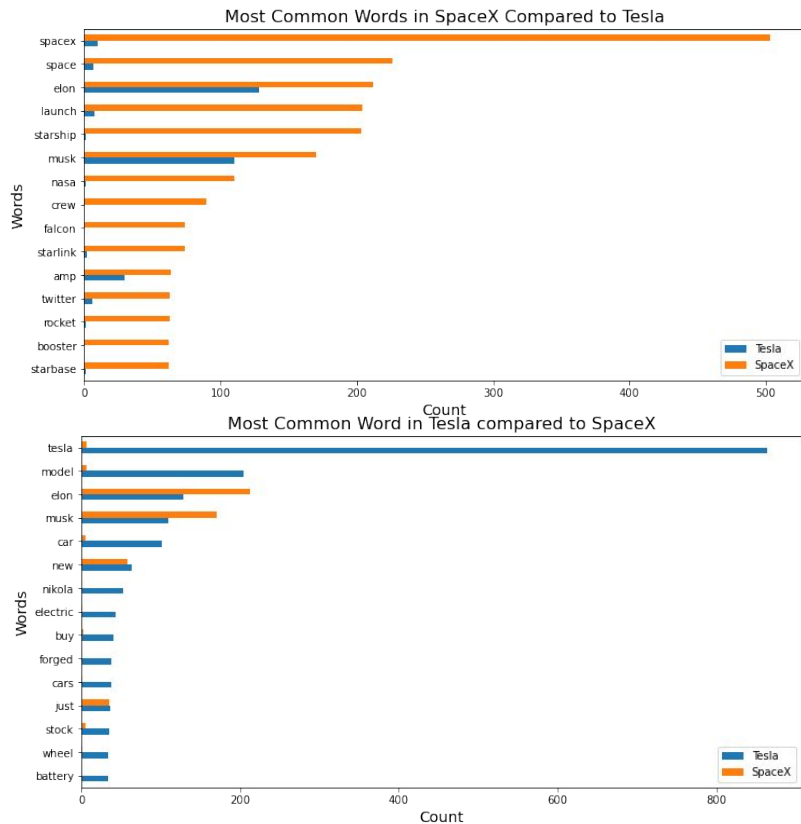
#### **Why Reddits**

- It's an American social news aggregation and discussion web site, 19th most visited in the world

#### **How we will do it**

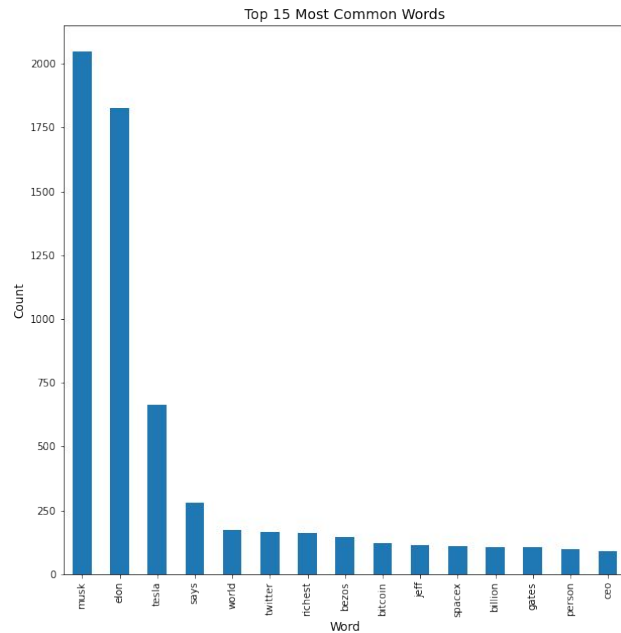
- Search for posts on Elon Musk in news subreddit
- Search for subreddits on “Tesla” and “SpaceX”
- Vectorize the text in the posts and analyze the words in the posts
- Create three models (Logistic Regression, Random Trees, both combined in a pipeline) to predict the content

# Elon Musk | Reddit | Results | Exploratory Analysis



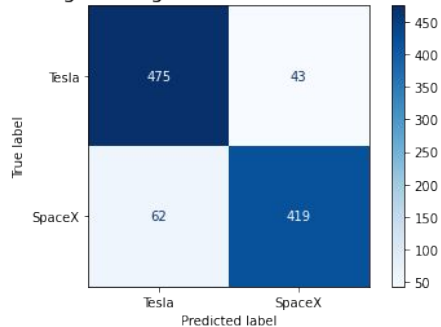
Left, Top and Bottom: words in 4,000 subreddits for 'Tesla' and 'SpaceX'.

Below: words in 2,000 'Elon Musk' posts in news.



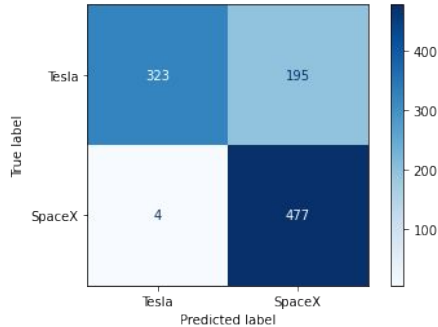
# Elon Musk | Reddit | Results | Models | Confusion Matrix

Logistic Regression Confusion Matrix



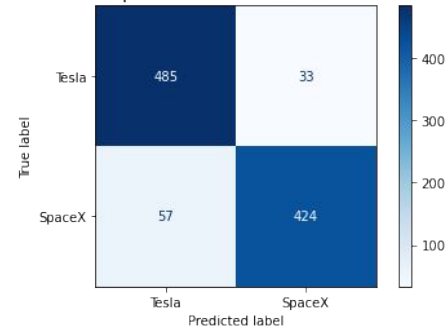
Cross Validation: 0.9129  
Precision: 90%  
Recall: 87%  
Specificity: 95%

Decision Trees Confusion Matrix



Cross Validation: 0.7960  
Precision: 68%  
Recall: 98%  
Specificity: 57%

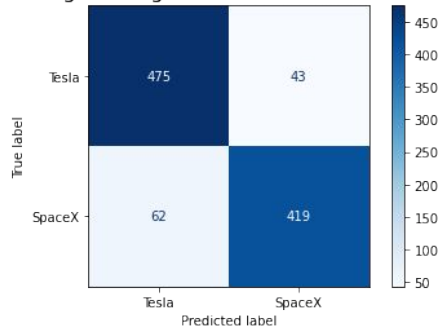
Pipeline Confusion Matrix



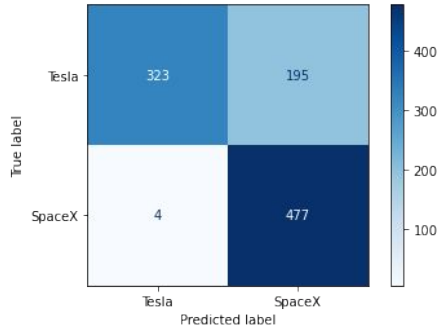
Cross Validation: 0.8978  
Precision: 90%  
Recall: 87%  
Specificity: 91%

# Elon Musk | Reddit | Results | Models | Confusion Matrix

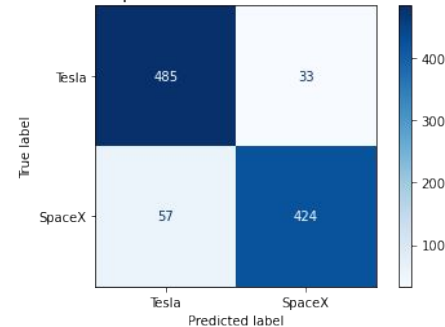
Logistic Regression Confusion Matrix



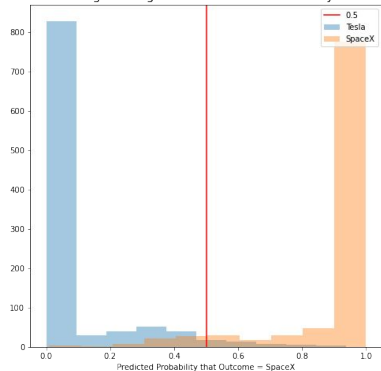
Decision Trees Confusion Matrix



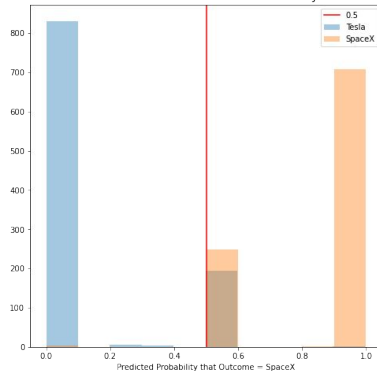
Pipeline Confusion Matrix



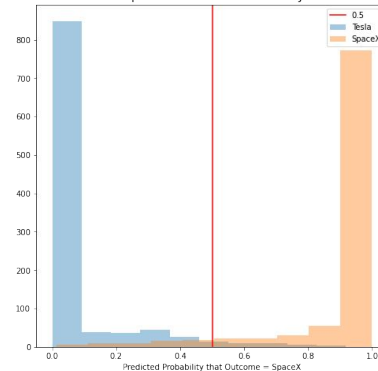
Logistic Regression Predicted Probability



Decision Trees Predicted Probability



Pipeline Predicted Probability



## Elon Musk | Reddit | Conclusions

---

Elon Mask's name is associated with his business ventures, wealth, his twitter hashtag `elon_musk`, bitcoins, and two other billionaires, Bill Gates and Jeff Bezos. These preliminary results are part of an exploratory data analysis that is not conclusive. More posts should be analyzed to have a clearer picture of the sentiment toward Elon Musk.

The best predictor we tested was the logistic regression, followed by the pipeline and decision trees.

Map source: <https://www.cnbc.com/2018/12/07/median-household-income-in-every-us-state-from-the-census-bureau.html>

---