

# Sentiment Analysis

On tweets related to Russia's  
war against Ukraine

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By Group 18



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# Introduction / Motivation

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# Introduction / Motivation

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- Analyzed dataset of tweets/retweets
  - 16 tweets from Elon Musk
  - 336 906 replies
  - Between October 3<sup>rd</sup> -6<sup>th</sup> 2022
- Motivation
  - Identify factors driving this sentiment
  - Suggestions to improve Ukraine's presence and image



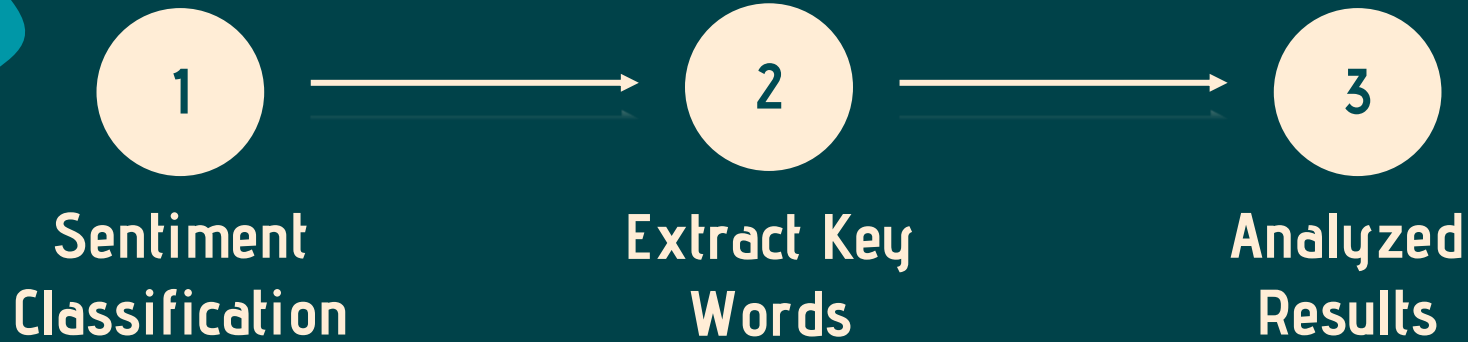
# Introduction / Motivation

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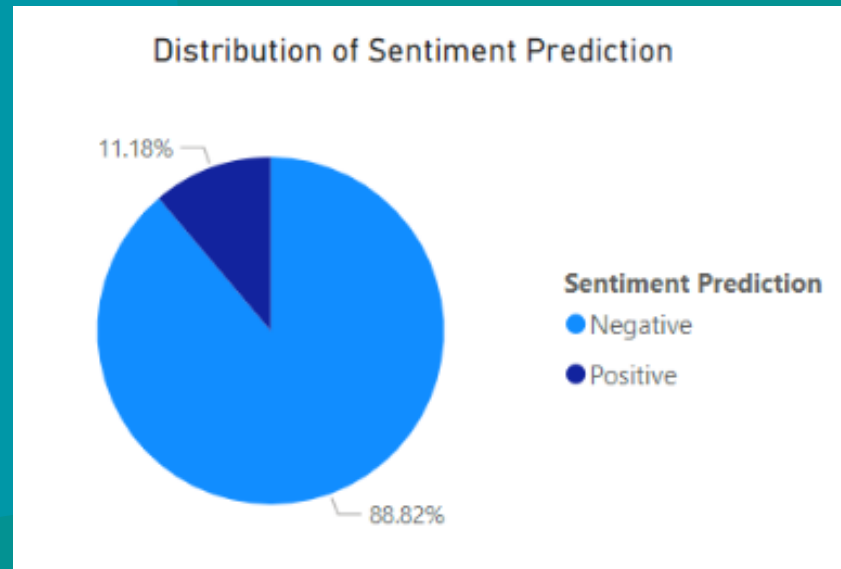


# Analysis Steps



# Results Classification

- Sentiment Classification
  - Negative sentiment 88.8 %
  - Positive Sentiment 11.2





## Positive Sentiment



## Negative Sentiment



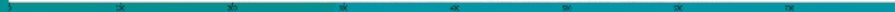
# Results Word Cloud



Positive Sentiment



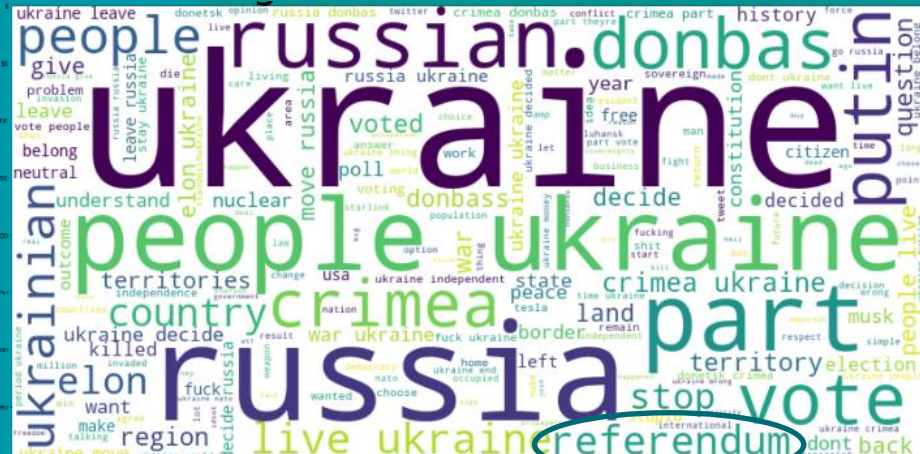
Negative Sentiment



# Results Word Cloud



Positive Sentiment



Negative Sentiment







## Positive Sentiment



## Negative Sentiment

## Results Word Cloud



## Positive Sentiment



## Negative Sentiment



## Results Word Cloud



## Positive Sentiment



## Negative Sentiment



## Positive Sentiment



## Negative Sentiment

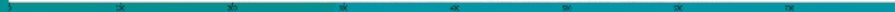




## Positive Sentiment



## Negative Sentiment



## Positive Sentiment



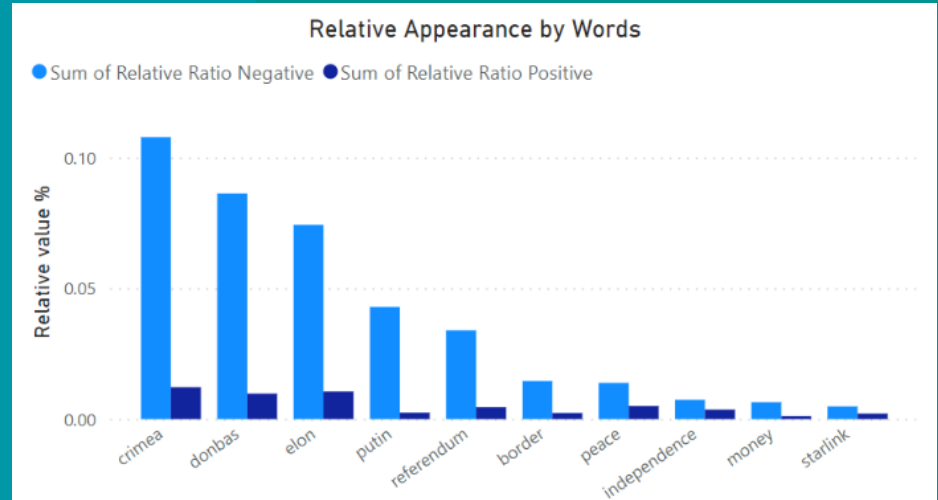
## Negative Sentiment

# Results Sentiment by Words

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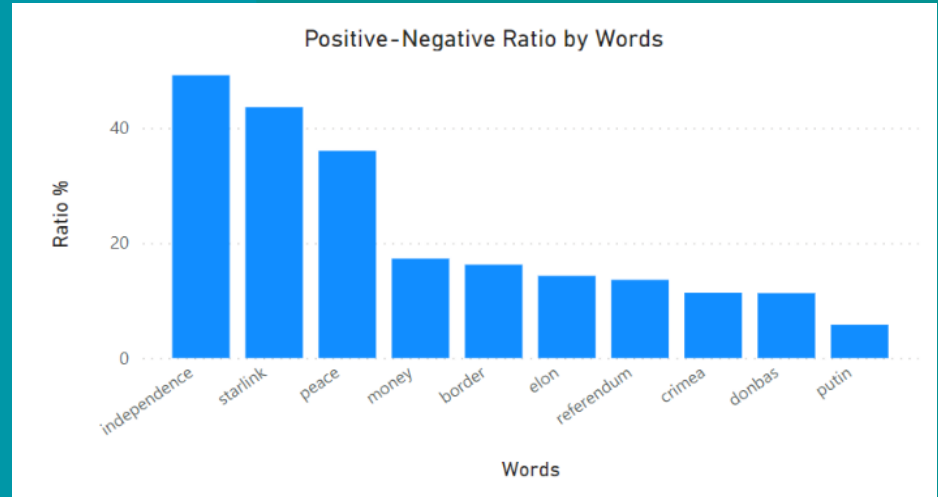
- Keywords relative number of appearance
- Sentiment Ratio by words



# Results Sentiment by Words

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- Keywords relative number of appearance
- Sentiment Ratio by words





# Starlink Analysis

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Positive

Negative



# Starlink Analysis

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## Positive

How Elon Musk's Starlink Became Invaluable To Ukraine's War Effort

Zelenskyy praised Elon Musk's Starlink for saving Ukraine from Russian propaganda in Wired interview

Elon Musk activates Starlink to help keep Ukraine's internet up and running

Elon Musk's Starlink satellites are helping Ukraine's elite drone unit destroy Russian tanks and trucks in the night: report

## Negative



# Starlink Analysis

## Positive

**How Elon Musk's Starlink Became Invaluable To Ukraine's War Effort**

**Zelenskyy praised Elon Musk's Starlink for saving Ukraine from Russian propaganda in Wired interview**

**Elon Musk activates Starlink to help keep Ukraine's internet up and running**

**Elon Musk's Starlink satellites are helping Ukraine's elite drone unit destroy Russian tanks and trucks in the night: report**

## Negative

**Exclusive: Musk's SpaceX says it can no longer pay for critical satellite services in Ukraine, asks Pentagon to pick up the tab**

**Ukraine lost access to 1,300 Starlink terminals over a funding issue**

**Ukrainian engineers scramble to keep mobile phones working**

**Elon Musk's Starlink satellite internet is reportedly raising prices in Ukraine**

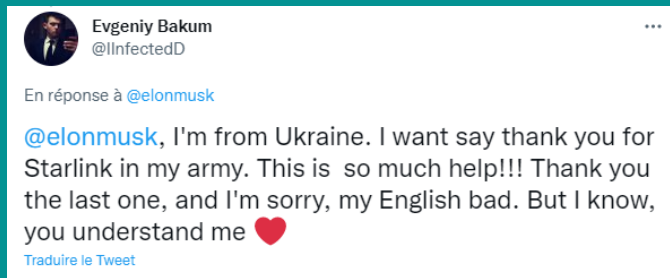




# Starlink Analysis

## Positive

## Negative



# 📍 Crimea Analysis

- Crimea background
  - geographical location of Crimea is strong
  - Annexation in 2014





# Crimea Analysis

# 📍 Crimea Analysis

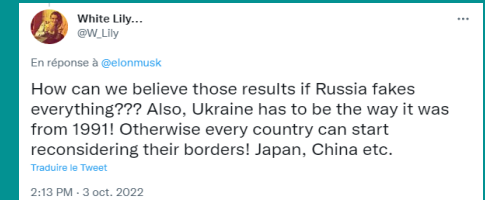
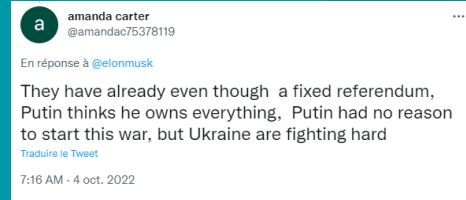
- Why is it a hot topic
  - United States proposal for peace deal
    - Russia withdraw
    - Except Crimea
    - Referendum in the future
  - Elon Musk tweet

**Elon Musk** ✓ @elonmusk · 3 oct. ...

Let's try this then: the will of the people who live in the Donbas & Crimea should decide whether they're part of Russia or Ukraine

# 📍 Crimea Analysis

- Negative Sentiment
  - Referendum wouldn't have fair representation
  - No reason for referendum
  - Fake results



# Suggestion Starlink

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- Seek help to allies to subsidize cost
- Negotiate to keep cost
- Benefits:
  - Highlight on social media current situation
  - Helps troop for communication

# Suggestion Crimea

- Ask allies for more help in getting Crimea back.
- Accept peace deal IF referendum can be done by a trusted third party, and the vote includes people that had to evacuate (acknowledge this would be hard)

**Ukraine has a right to return Crimea and Germany should help – head of Munich Security Conference**

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