Marijuana Legalization

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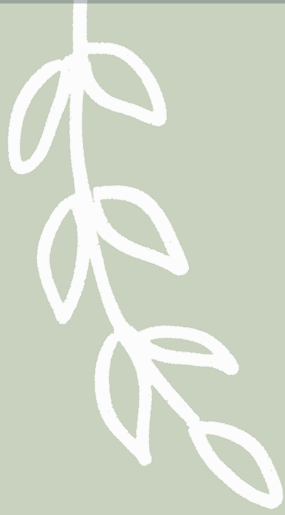# What to Expect

Problem & Motivation

Data Sources & Pre-processing

Analysis & Results

Insights & Conclusion

Problem & Motivation

Despite being listed as an illegal drug, marijuana has been used by more than 128 million people in the US. Every year, more than 600,000 Americans are arrested for marijuana possession; that's more than one per minute. Today, 66% of the population supports legalizing marijuana, up from 12% in 1969.

- Since marijuana is already widely accessible, legalizing it would benefit the economy in the long run by collecting tax revenue.
- If it's legal, the government can simply track how much the public purchases and keep an eye on it.

Which US states will be the next to legalize marijuana?

As we know, Marijuana is legal in most states in the US. Every other year a new state gets added to this list. In this project, we are trying to predict the next state solely based on unstructured data analytics.

Data Sources

COLLECTING DATA

Categorize states based on legalization status

There are 16 states where medical marijuana consumption is legal("M" states), 12 states were it is completely illegal("N" states) and rest of the states allow marijuana consumption for both medical and recreational purpose.

Data Sources: Twitter

Keywords: "marijuana","weed", "legalization",state details and more

Legal Medical & Recreational Marijuana States

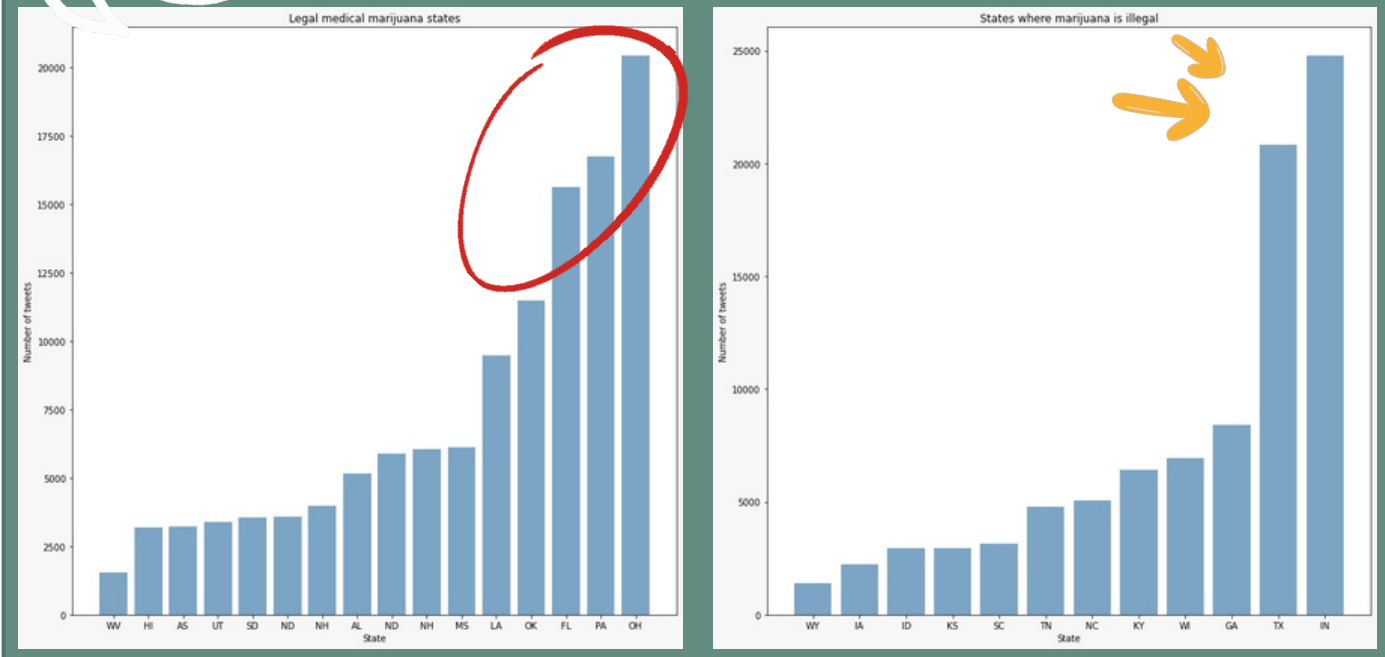Source: https://medicalmarijuana.procon.org/legal-medical-marijuana-states-and-dc/
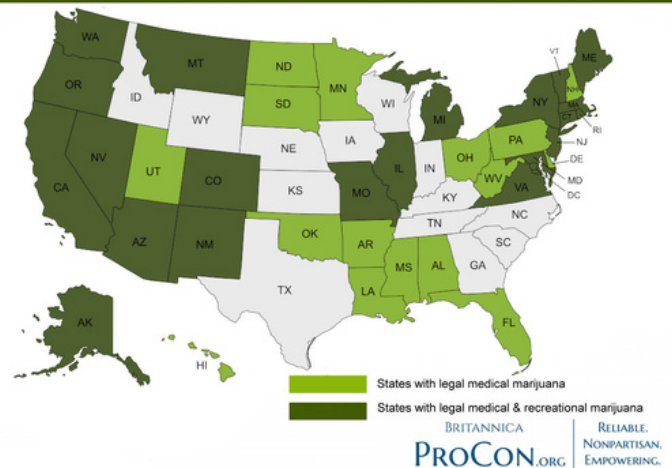
How does a state pass a bill?

Senates or Houses of the state introduce a bill, and both need to have a majority vote or 2/3rds vote on it. The governor has ten days to sign the bill, veto it, or allow it to become law without a signature.

These are the most influential people in passing the bill. But ordinary folks elect the senators and house representatives, so ultimately, their opinion matters too.

We will scrape Twitter because it's a forum for the people mentioned above to share their thoughts.

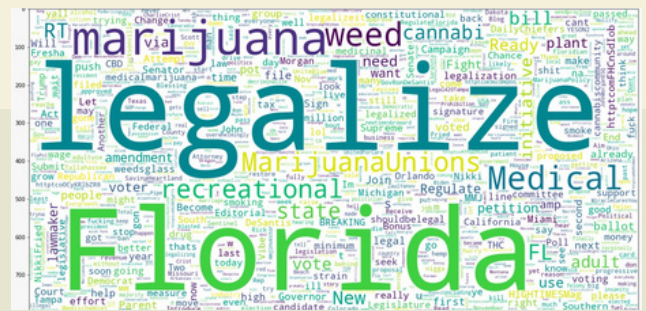We scraped Twitter for tweets from all 28 states. Our keywords were "legalize", "marijuana", and "weed".

As the histogram depicts, some states had more tweets related to this subject when compared to others.

We picked the top 4 states from "M" states and the top 3 from "N" states. This will help us narrow down our search.
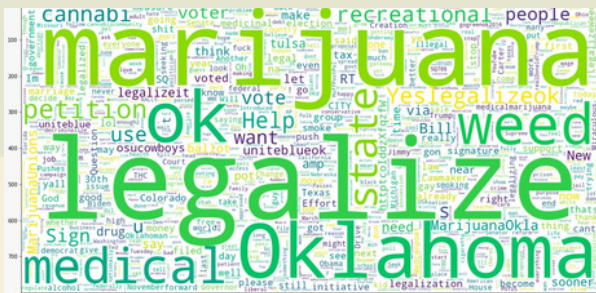
Word frequency analysis for states
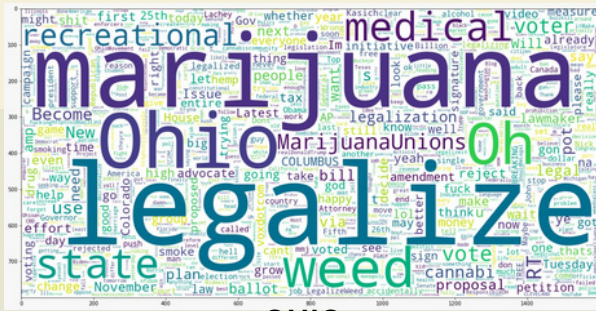
OHIO

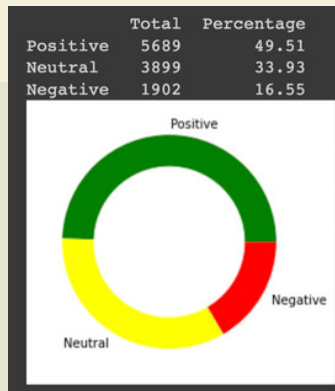
Florida

Oklahoma

Pennsylvania

As we took four states with the most mentions of tweets related to our topic, since our search keywords are marijuana, weed, and legalize, the word cloud showcases the word that appeared the most in tweets we scraped. The word gets more prominent when the mentioned increase. We can see common fair mentions of words like lawmaker, voter, recreational, bill, and medical. They are all related to lawmaking which leads us to our next step which is to look into lawmakers, which are local senators and governors.

Analysis & Results
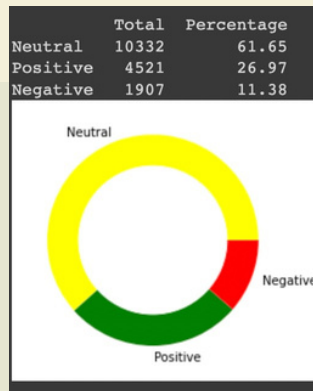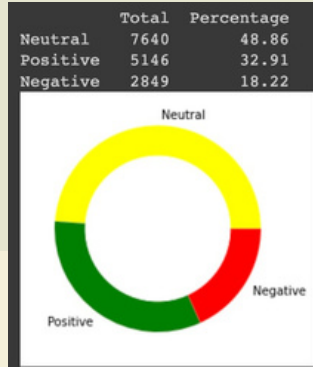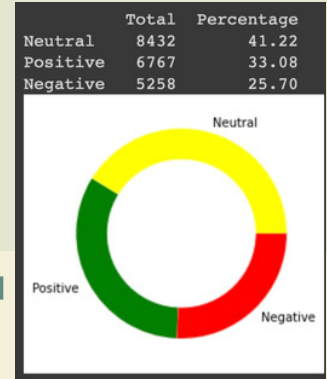
Sentiment Analysis top 4 "M" States

Oklahoma

	Total	Percentage
Positive	5689	49.51
Neutral	3899	33.93
Negative	1902	16.55

SELECT

Florida

	Total	Percentage
Neutral	7640	48.86
Positive	5146	32.91
Negative	2849	18.22

Pennsylvania

	Total	Percentage
Neutral	10332	61.65
Positive	4521	26.97
Negative	1907	11.38

SELECT

Ohio

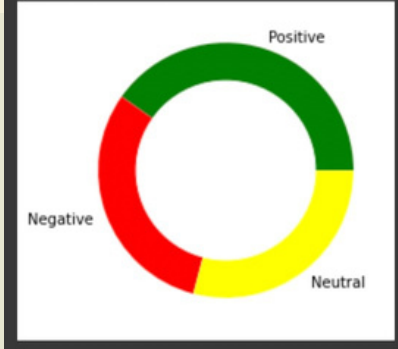|	Total	Percentage
Neutral	8432	41.22
Positive	6767	33.08
Negative	5258	25.70

We ran sentiment analysis for the top 4 states where Medical marijuana is legal. In this analysis, we found out that Florida and Ohio have a neutral take on making recreational marijuana legal too. We picked Oklahoma and Pennsylvania because Oklahoma has a very positive sentiment toward making recreational marijuana also legal in their state. While Pennsylvania has the most neutral sentiment, it also has the least negative sentiment. For the sentiment analysis, we picked attributes such as weed, marijuana, legalization, senate and lawmakers. (In some cases, senator names if it came up during word frequency analysis)

Likewise, we ran sentiment analysis for the states where no type of marijuana is legal. We found that Georgia and Texas had a neutral opinion on it, whereas Indiana has a positive sentiment towards making it legal.

GENERATING SUPPORT SCORE

Now that we have our top 3 states: PA, OK and IN. We have to perform further analysis to narrow it down to top two states.

SCRAPE TWEETS BY ALL SENATES AND GOVERNOR FROM THE STATES

Created a list of all the senators and governors. This csv also contained information such as the twitter handle and political party information.

PERFORM SPACY SIMILARITY AND SENTIMENT ANALYSIS BETWEEN "LEGALIZE MARIJUANA" AND TWEETS

Once spacy similarity score was generated for each tweet, we averaged the score of a single user to get a collective score.
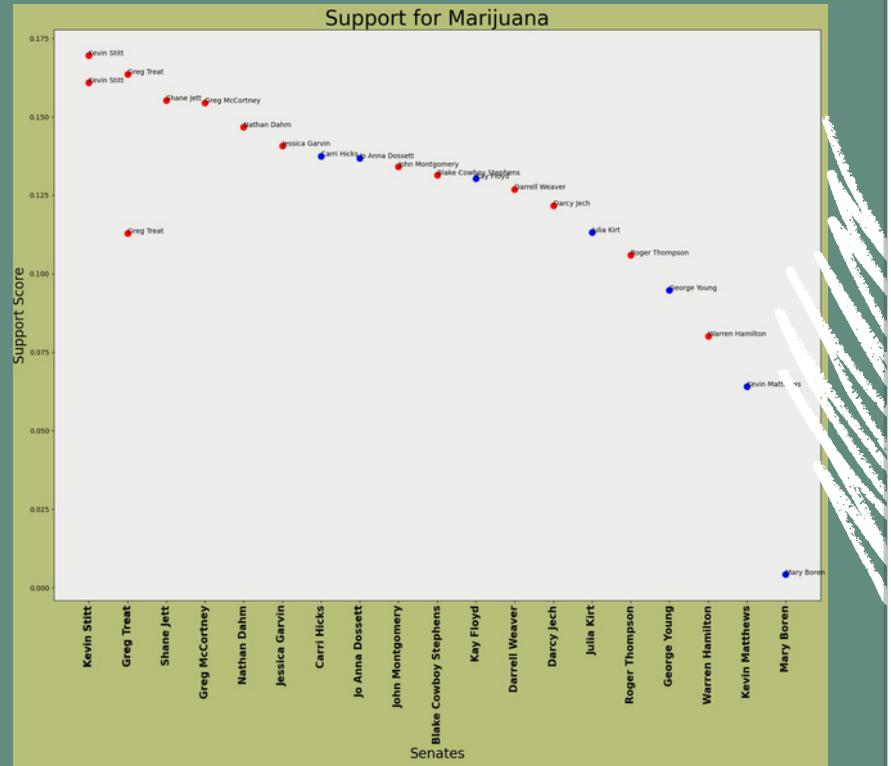
CALCULATE THE SUPPORT SCORE

Support score is a weighted average of spacy similarity and sentiment analysis. This score will provide us information regarding how each senator/governor feels about the topic.
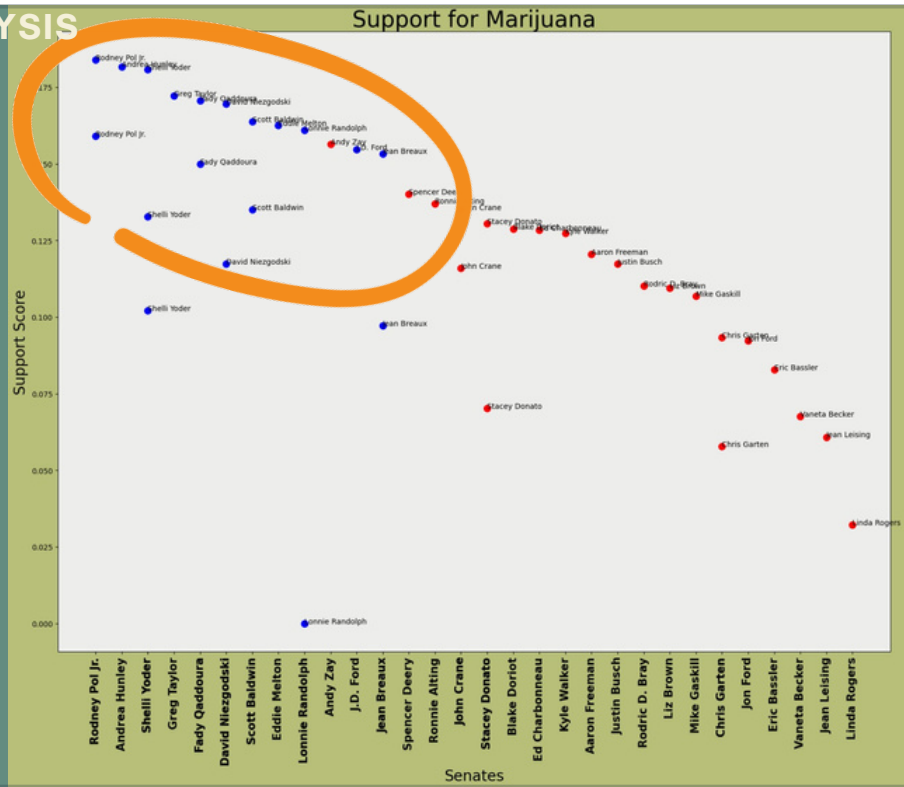
OKLAHOMA

Support for Marijuana

Out of 50+ senators only 20 of them seem to have any say about our topic and out of these the top part of the chart is occupied by 7 republican party senates.
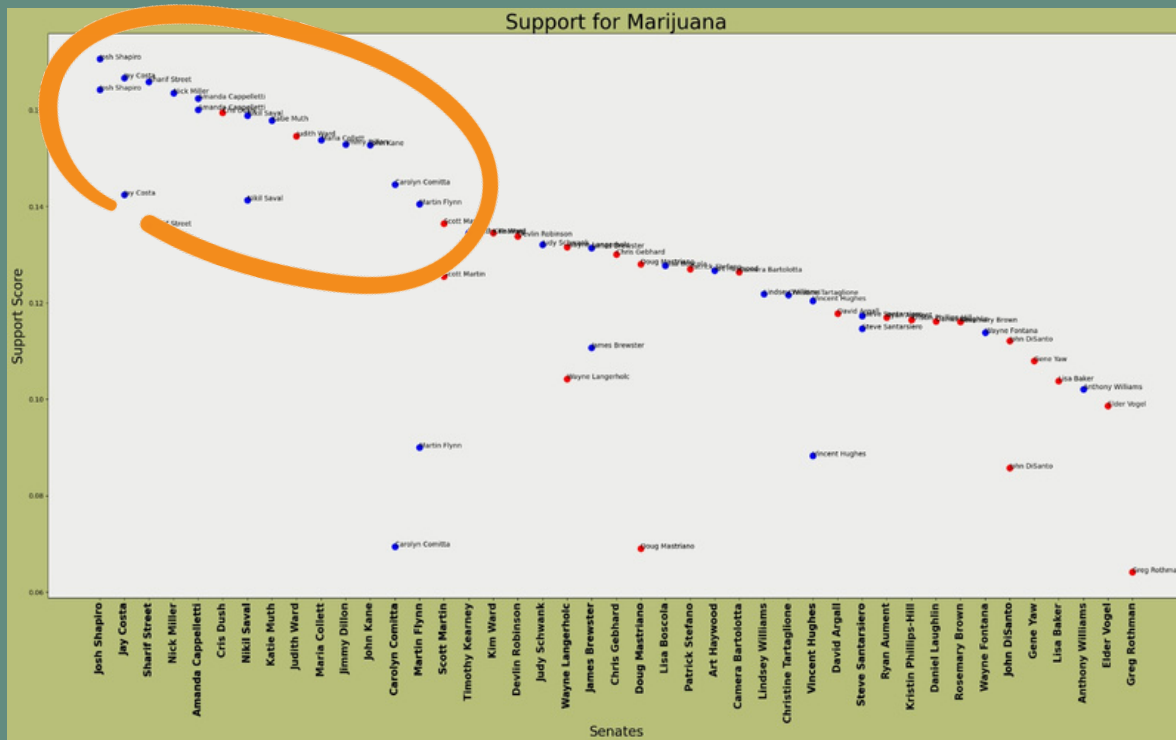
SUPPORT SCORE ANALYSIS

INDIANA

Support for Marijuana

PENNSYLVANIA

Support for Marijuana

Insights

These are the insights that we derived from our study:

*1) Majority of **blue states** have a **liberal view** on making **recreational marijuana legal***

*2) Majority of **red states** have a traditional **right-wing view** about **recreational or medical marijuana***

*3) It is only **logical to assume** that wherever we have **a Democrat governor** coming in, it is likely to be the **next state** to make **recreational marijuana legal***

*4) Therefore, going by the above analysis, we have deduced that **Pennsylvania** and **Indiana** will be the **next states** to make **recreational marijuana legal***

Pennsylvania is our first choice of results because we have a democratic senator who has been elected and also a democratic governor for the upcoming year of 2023.

Indiana is our next choice for legalizing marijuana next at least to the medical level because our analysis of the support score shows that all the democrats are supporting this topic and republican leaders in that state are also supporting the research behind this to benefit the economy and healthcare. As well as the immense positive sentiment by the people which will lead to them electing more senators and representatives favoring legalization.

Thank you!