EMOTION DETECTION USING TWITTER DATA

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AIM OF THE PROJECT

- PROJECT IS TO CLASSIFY TWEETS ACCORDING TO THE SENTIMENT EXPRESSED IN THEM: POSITIVE, NEGATIVE OR NEUTRAL.
- THE AIM OF THE PROJECT IS TO FIRST CONVERT THE TWEETS INTO USABLE FORMAT USING NLP.
- THEN CLASSIFY THEM USING DIFFERENT CONDITIONS USING MACHINE LEARNING.

Sentiment Analysis

"Sentiment analysis is the task of identifying positive and negative opinions, emotions and evaluations in text"

The weather is great today :)

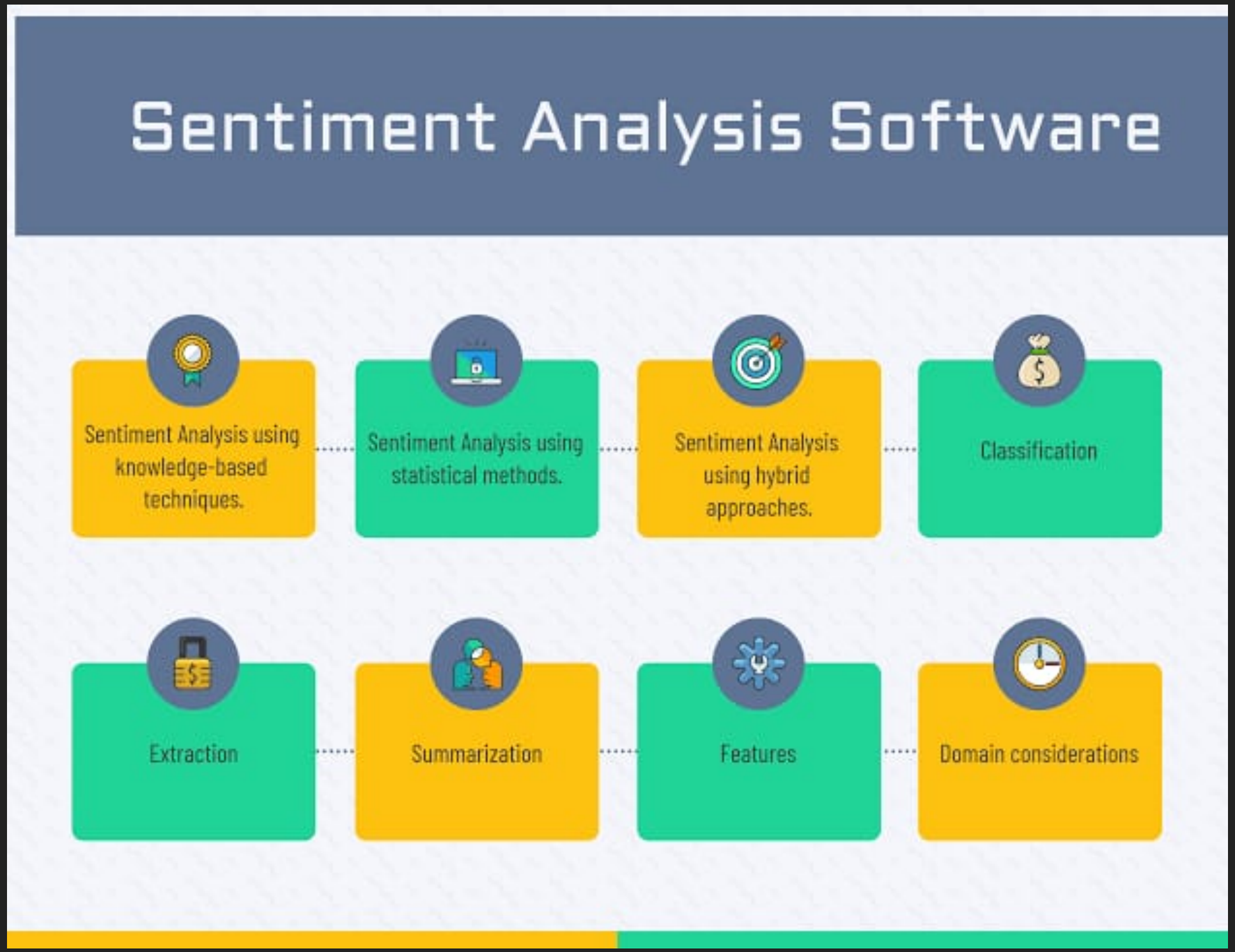
Opinion

I think its almost 30 degrees today

Fact

Nooo, it is very humid :(

Opinion

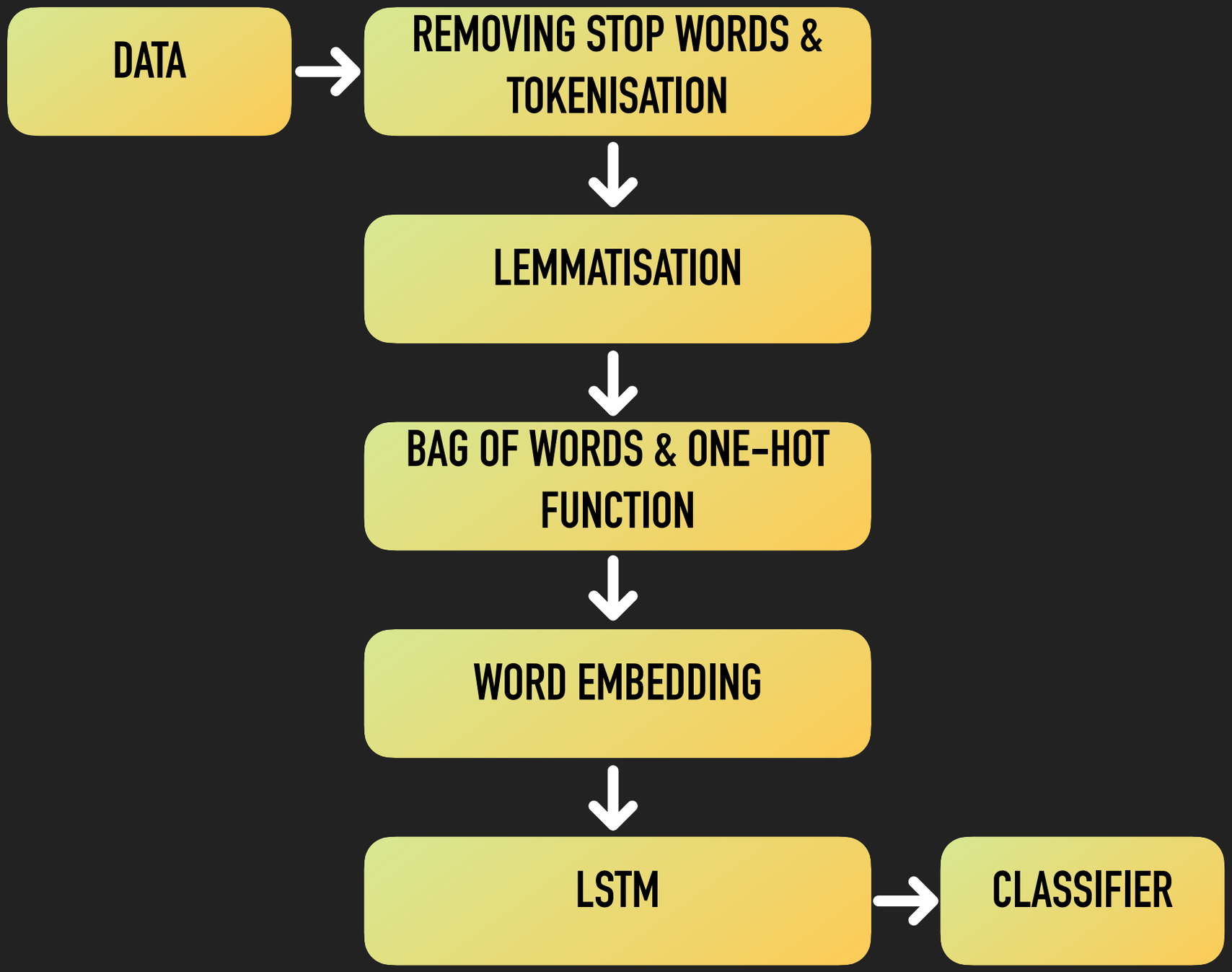

Sentiment Analysis Software
Sentiment Analysis using knowledge-based techniques.
Sentiment Analysis using statistical methods.
Sentiment Analysis using hybrid approaches.
Classification
Extraction
Summarization
Features
Domain considerations

TYPES OF SENTIMENT ANALYSIS

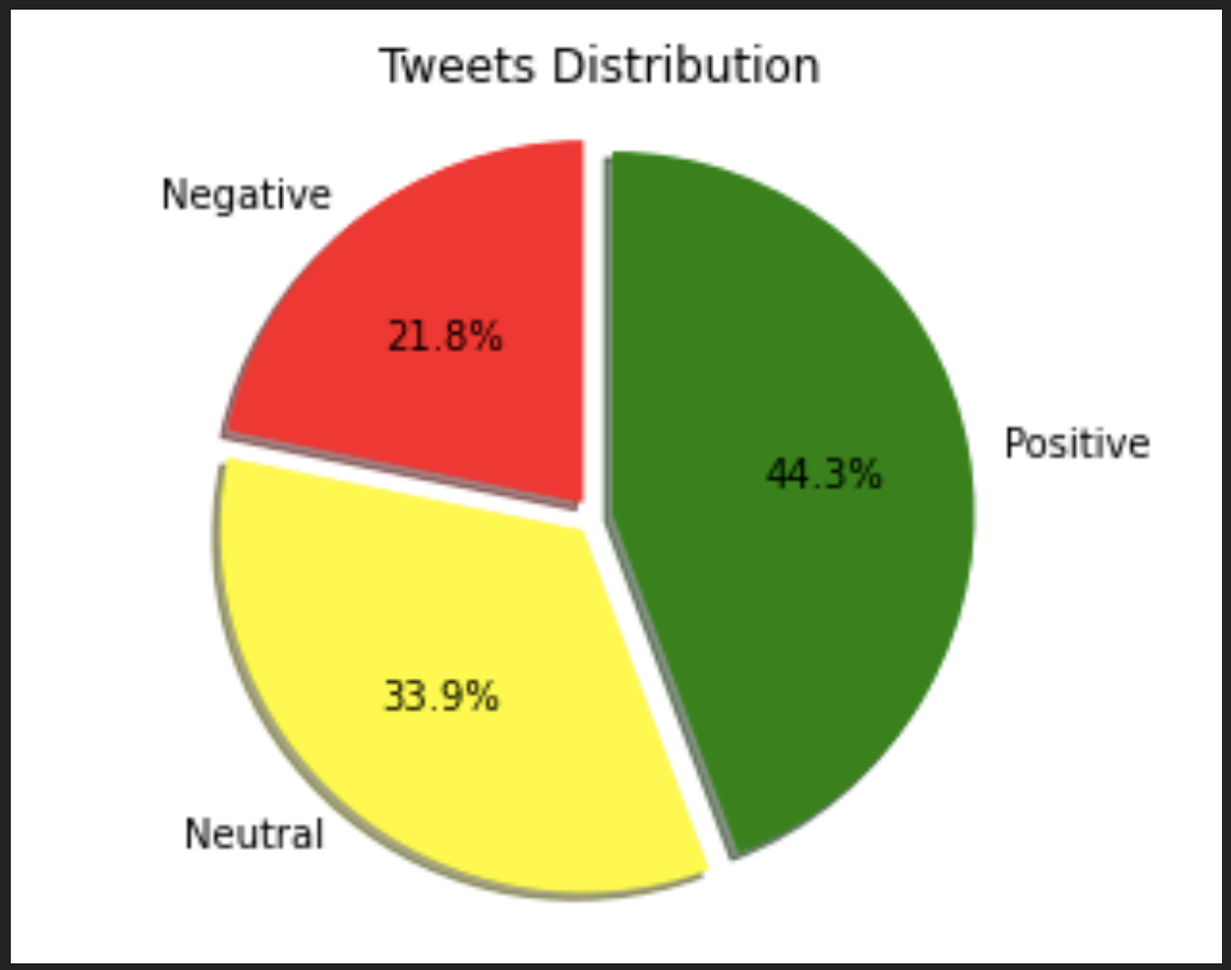
- EMOTION DETECTION SENTIMENT ANALYSIS
- INTENT-BASED SENTIMENT ANALYSIS
- FINE GRAINED SENTIMENTAL ANALYSIS
- ASPECT-BASED

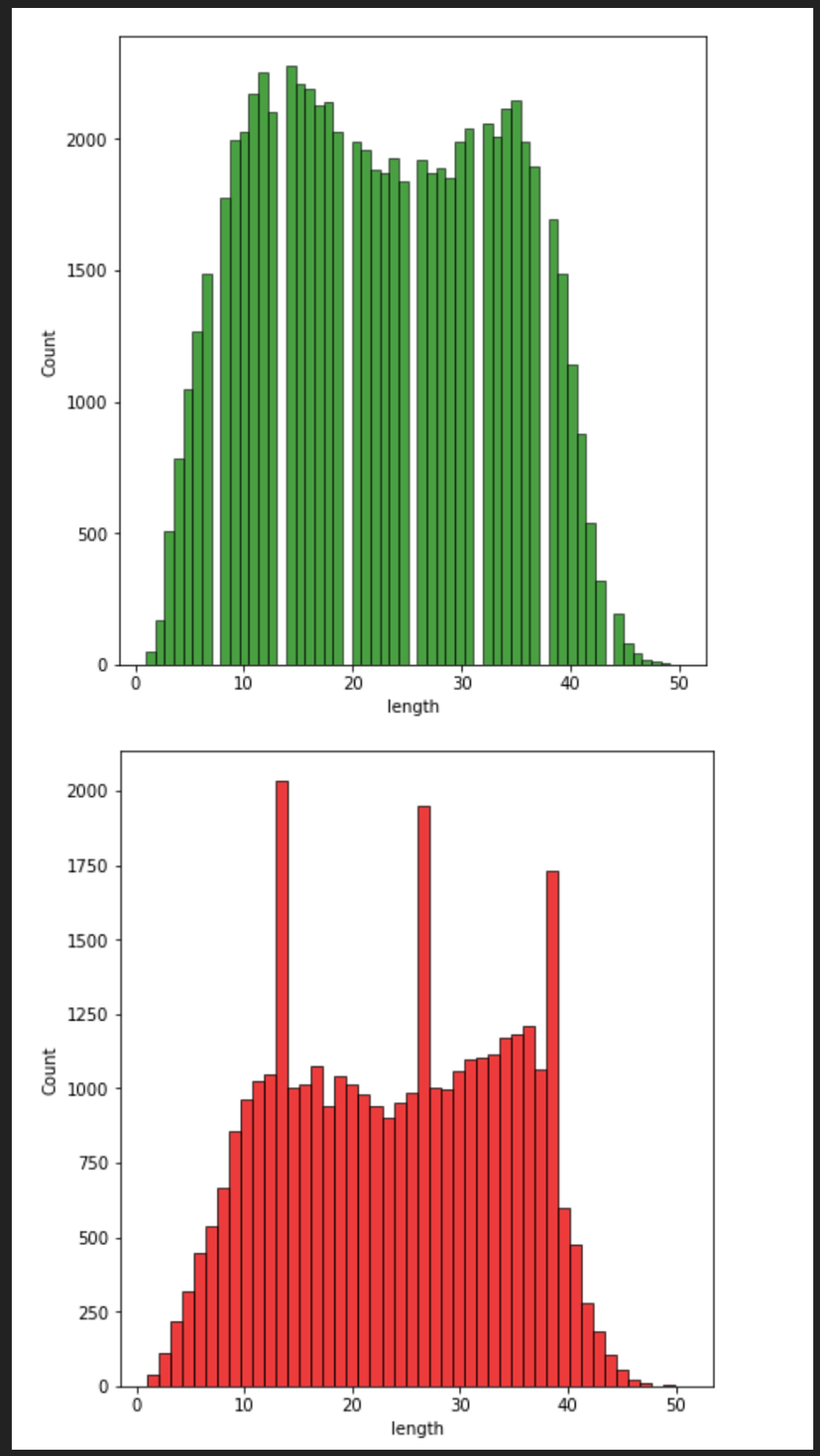
SENTIMENT ANALYSIS USING LSTM RNN

STEPS USED IN SENTIMENT ANALYSIS

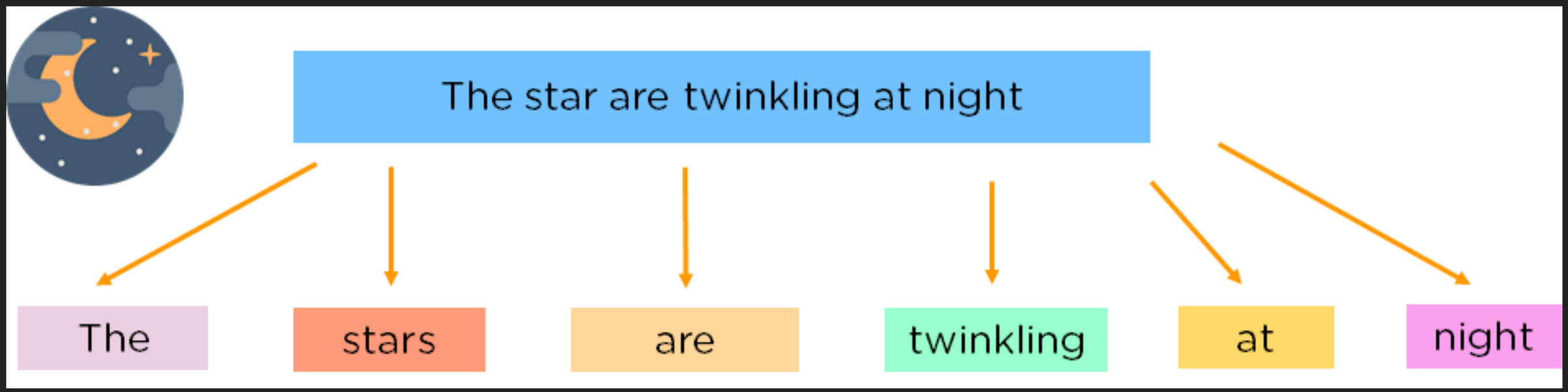


DATA ANALYSIS

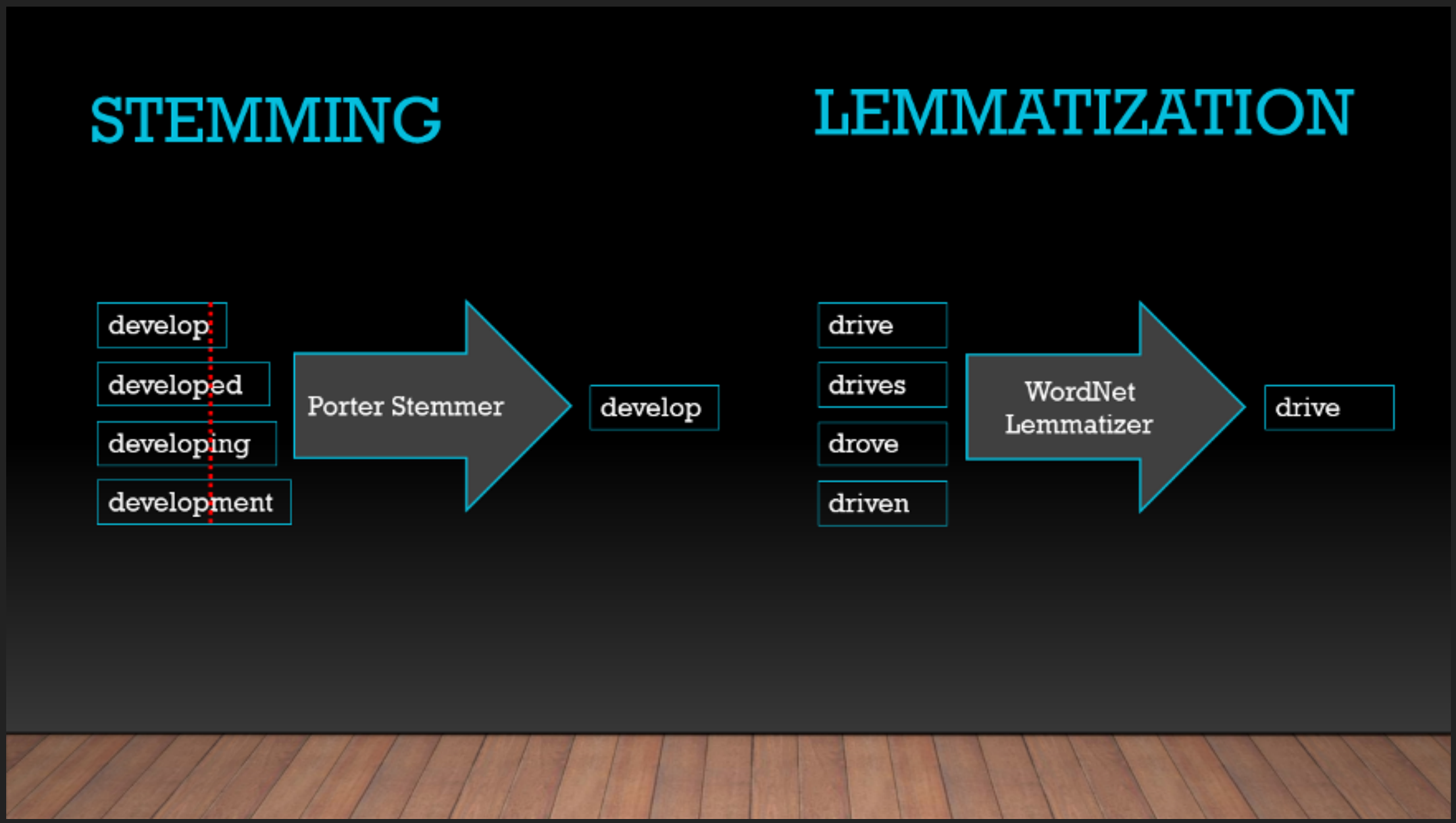




TOKENISATION



STEMMING & LEMMATIZATION



BAG OF WORDS

	the	red	dog	cat	eats	food
1. the red dog →	1	1	1	0	0	0
2. cat eats dog →	0	0	1	1	1	0
3. dog eats food →	0	0	1	0	1	1
4. red cat eats →	0	1	0	1	1	0

ONE-HOT FUNCTION

Binary representation of data

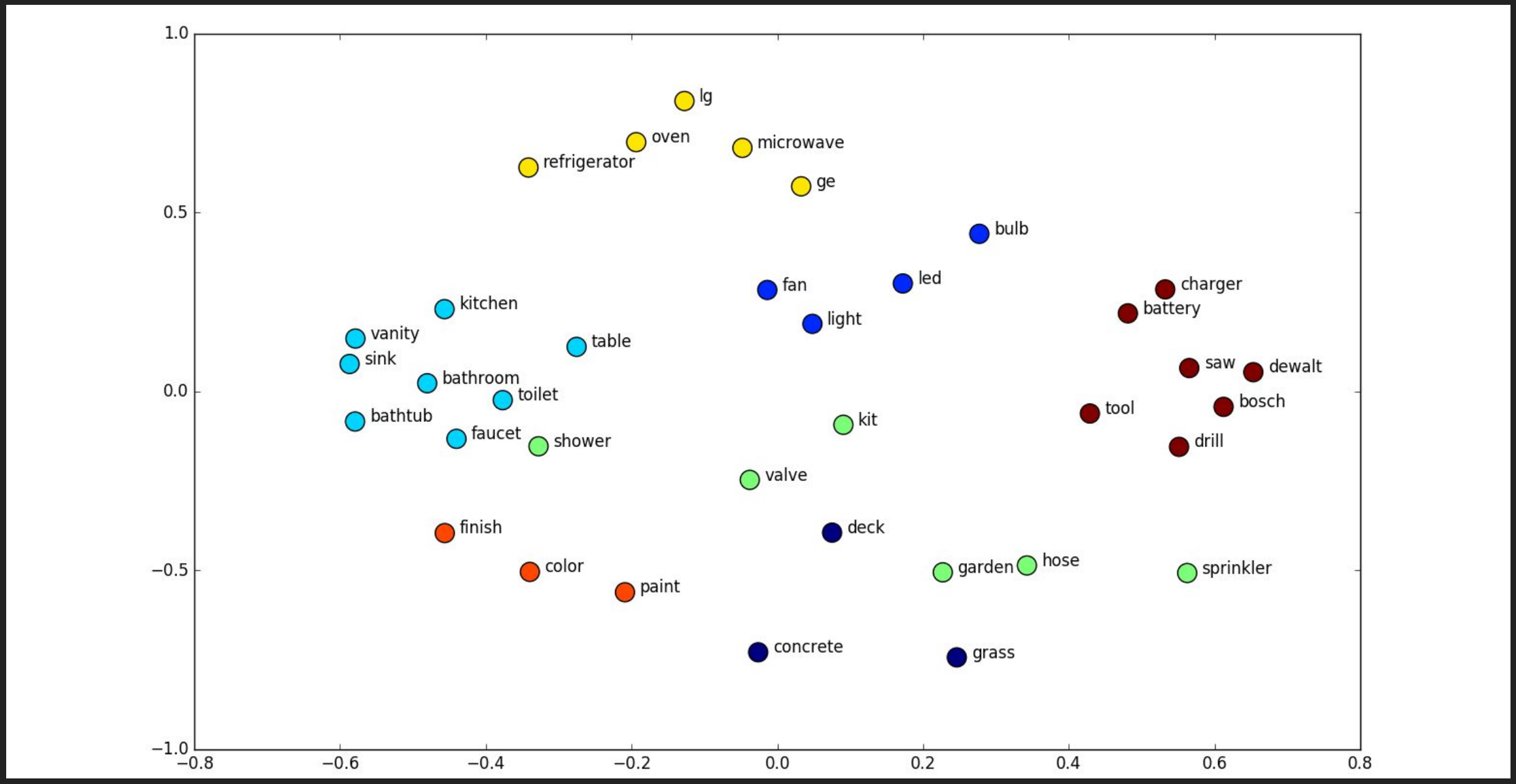
	THE	RED	DOG	CAT	EATS	FOOD
Dog eats food	0	1	0	0	1	1

After applying ONE-HOT function

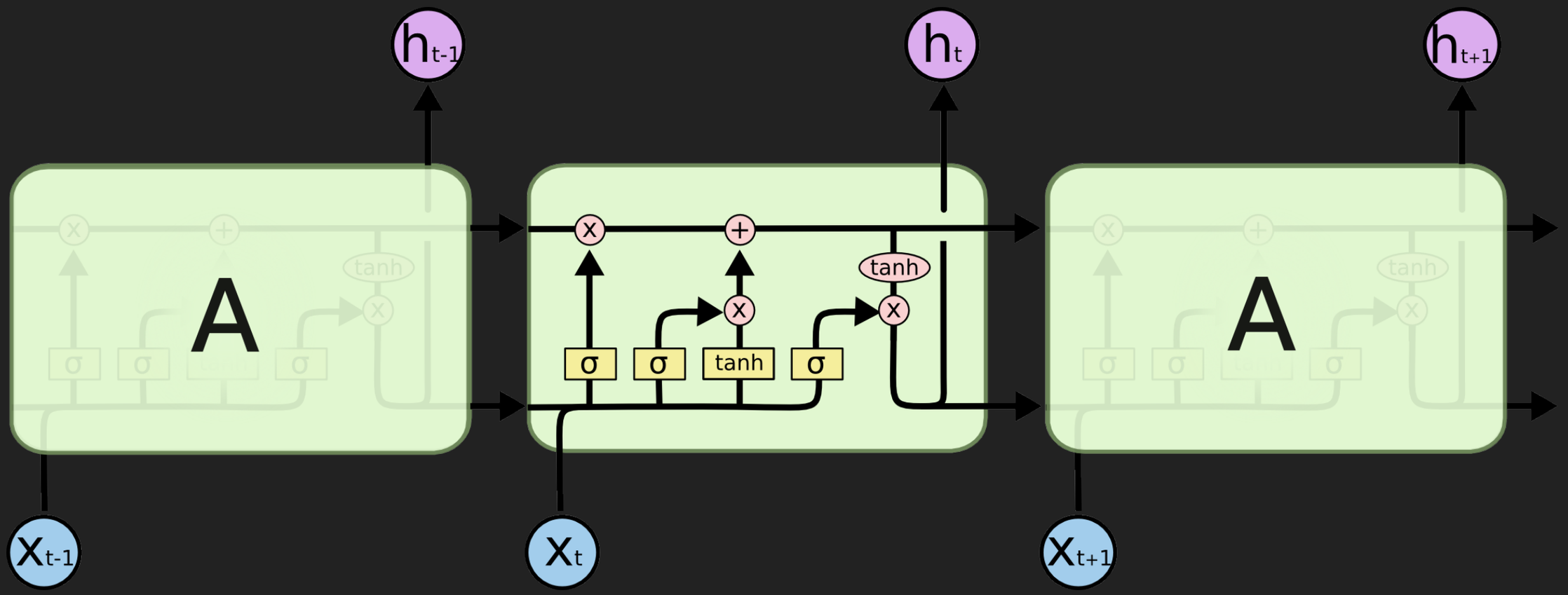
DOG	EATS	FOOD
1	4	5

WORD EMBEDDING

- A word embedding is a learned representation for text where words that have the same meaning have a similar representation.

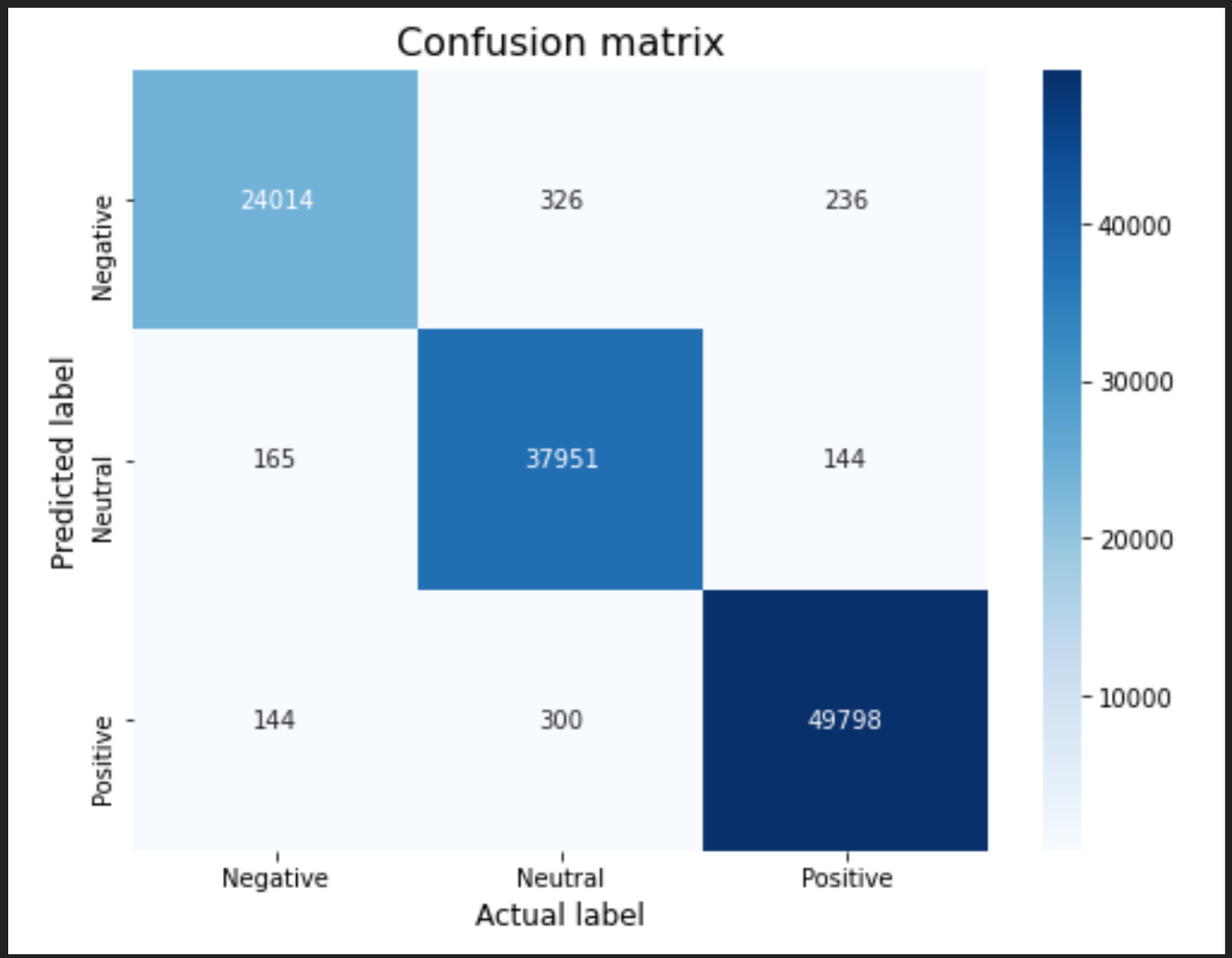


LSTM (LONG SHORT TERM MEMORY)



Long Short Term Memory networks – usually just called “LSTMs” – are a special kind of RNN, capable of learning long-term dependencies. They were introduced by Hochreiter & Schmidhuber (1997), and were refined and popularized by many people in following work. They work tremendously well on a large variety of problems, and are now widely used.

INFERENCE



Accuracy : 0.9884

Precision : 0.9899

Recall : 0.9871

F1 Score : 0.9885

DATA PREDICTION

```
predict_class(['"This is the worst day of my life'])
```

```
The predicted sentiment is Negative
```

```
predict_class(['"hello how are you'])
```

```
The predicted sentiment is Neutral
```

```
predict_class(['"always be happy'])
```

```
The predicted sentiment is Positive
```