T5 Online Data Science BootCamp

Sentiment Anlaysis

covid-19 tweets

Taif AlWafi
Computer science graduate

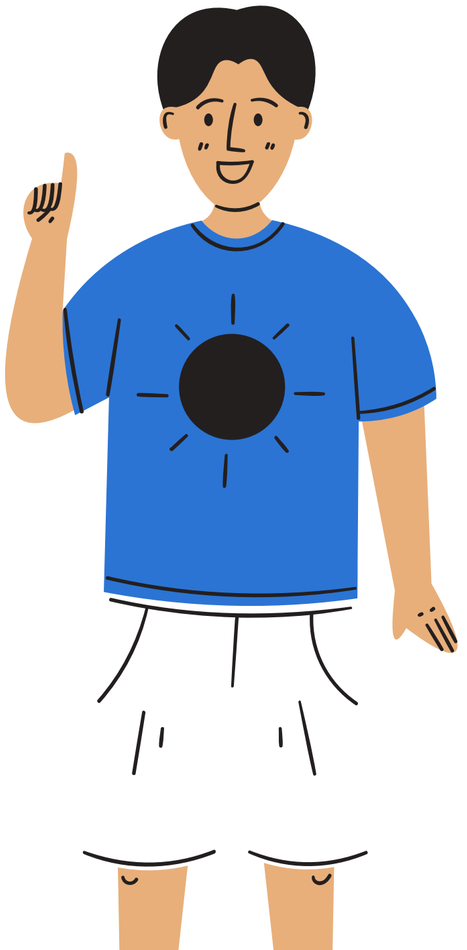
Table of content

Introduction

In late December 2019 a **coronavirus** was identified in China causing severe respiratory disease including pneumonia. Impacts of the pandemic, have threatened people's mental health. This project aimed to use classification models to predict how a person feels about the coronavirus.

Problem statment

In this project, I apply a **tweets sentiment** analysis model that helps people detect their sentiment about the pandemic and contacting with a clinic to avoid risk mental health.

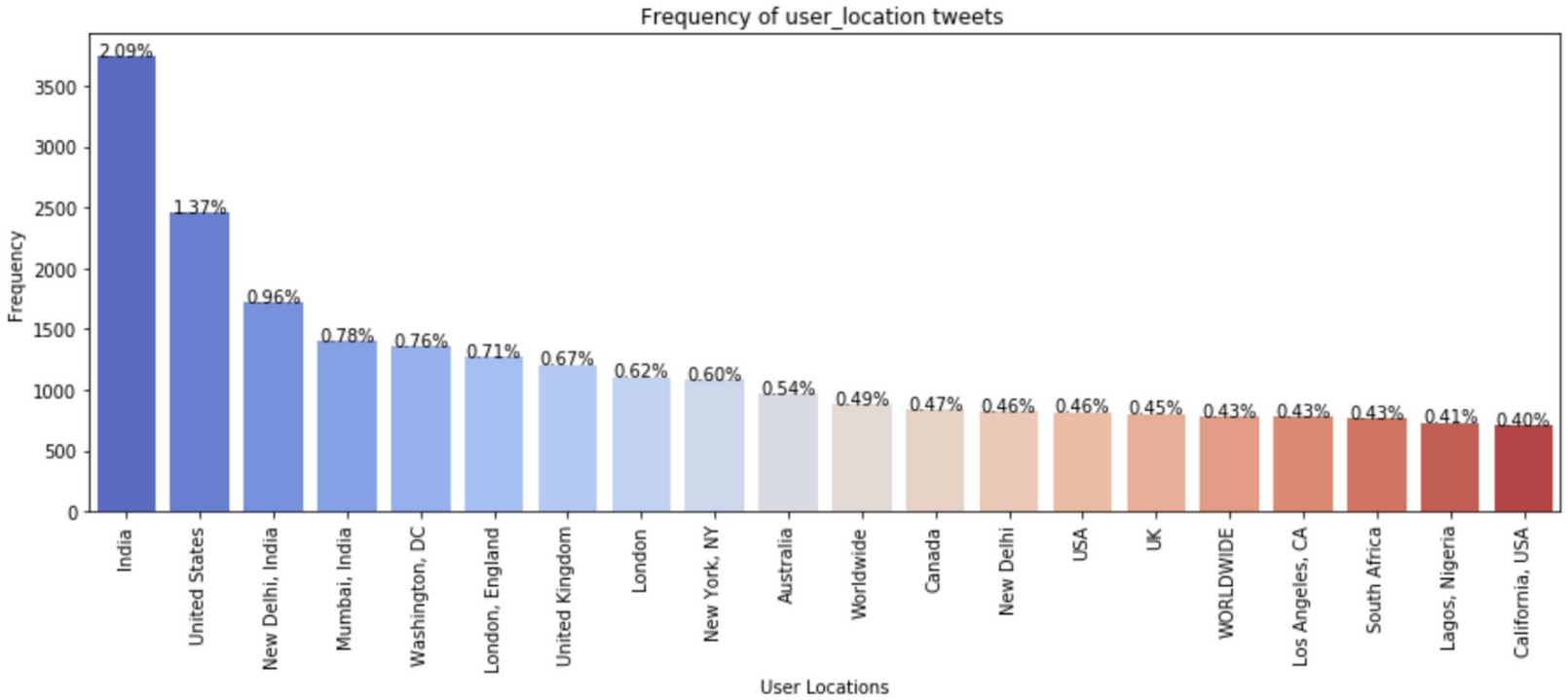


Dataset

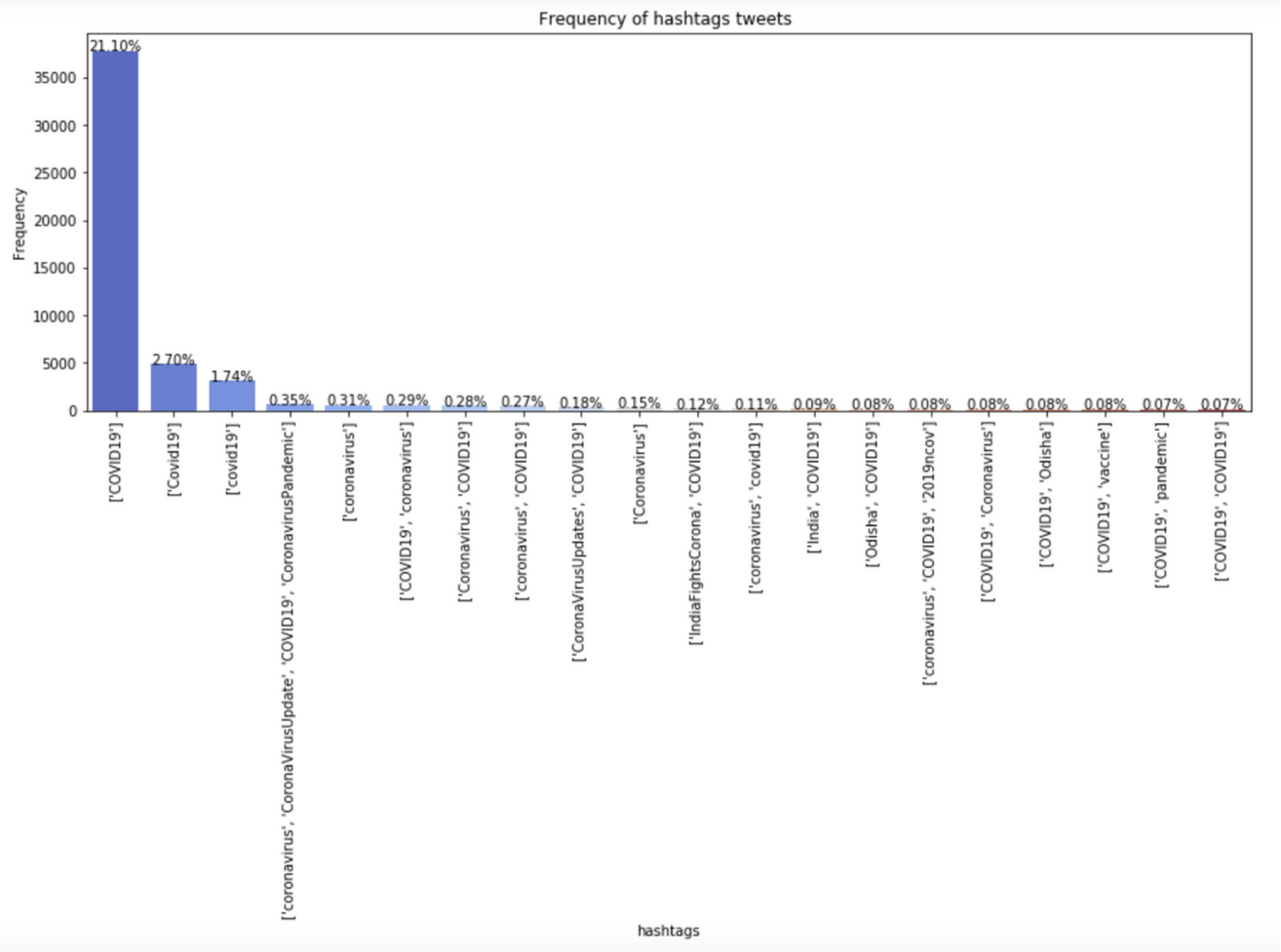
The provided dataset (COVID19 Tweets) consists of 179108 tweets (179108 rows × 13 columns). The dataset can be found at Kaggle.

'user_name'`, 'user_location', 'user_description', 'user_created', 'user_followers', 'user_friends', 'user_favourites', 'user_verified', 'date', 'text', 'hashtags', 'source', 'is_retweet'

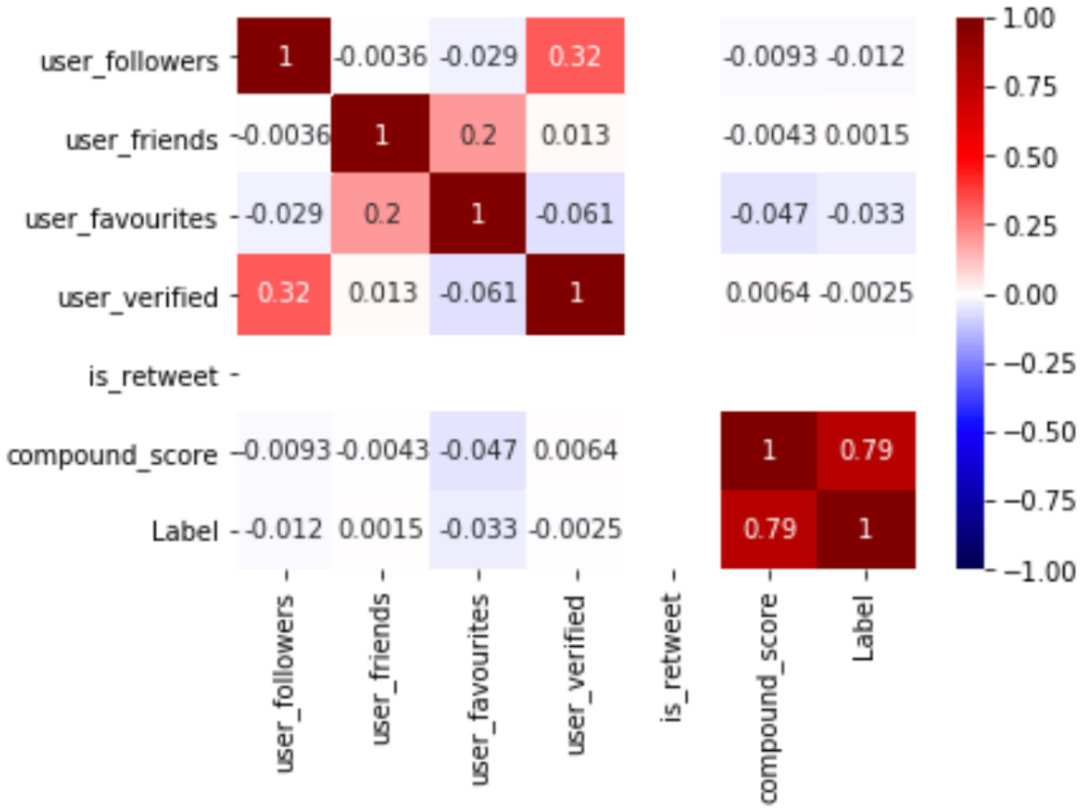
Exploratory Data Analysis



Exploratory Data Analysis



Exploratory Data Analysis



Data Preprocessing

clean data

labelling data

dividing the data

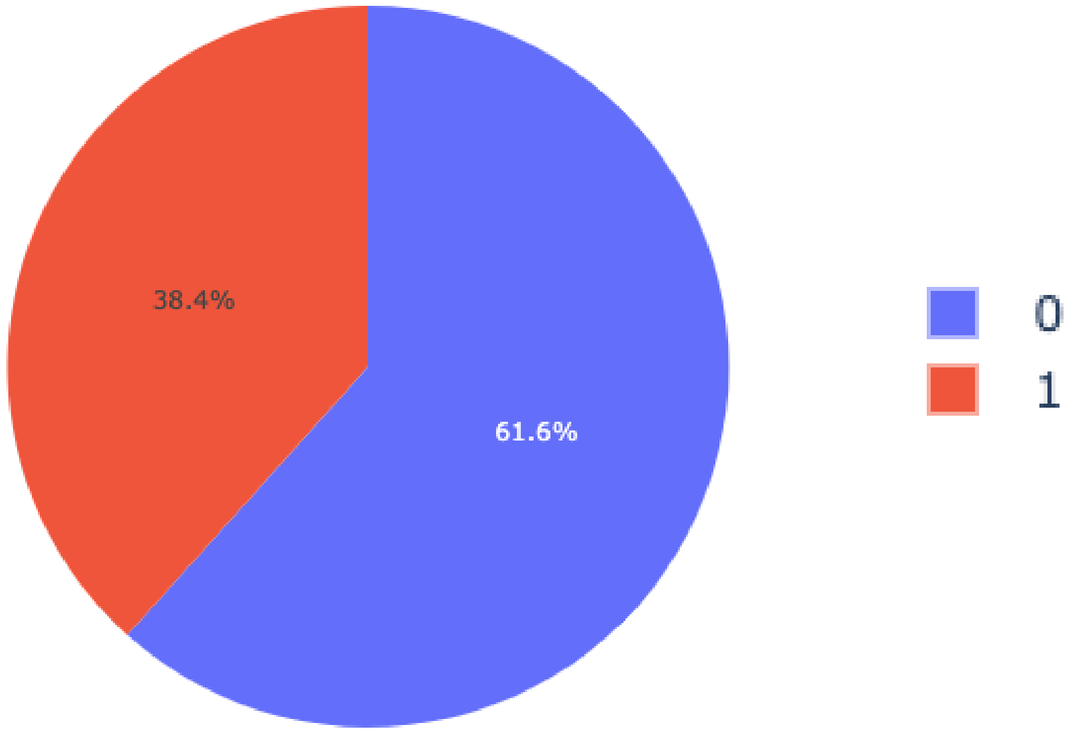
Data Preprocessing

Preprocessing the text feature using the following NLP and re techniques :

- Converting to lowercase
- Remove text in square brackets,
- Remove links,
- Remove punctuation
- Remove words containing numbers
- Removing stopwords
- Lemmatization

How do you feel about Coronavirus ?

How do you feel about Coronavirus ?



Finally

Machine learning model

Models

1. Naive bayes → Training: 91.18% &Test set: 84.76%
2. Logistic regression → Training: 99.03% &Test set: 94.36%
3. Neural network → Training: 86.68% &Test set: 86.15%
4. Support Vector machine → Training: 96.22% &Test set: 93.96%

Thanks for listening