Disease Detection System

This AI-driven detection system leverages social media data to track outbreaks of influenza and tuberculosis

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Overview

- Influenza (flu) and tuberculosis (TB) are widespread respiratory diseases that pose major public health challenges worldwide. Influenza is a viral infection that spreads quickly, particularly during seasonal outbreaks, causing millions of cases and hospitalizations each year.
- TB, one of the top infectious killers, is especially severe in low- and middle-income countries. Both diseases result in significant social and economic burdens, including loss of productivity.

Problem Statement

Early detection of influenza and tuberculosis outbreaks is critical, but official reporting often lags behind the initial spread. Social media data could provide an early warning system, but requires AI-powered analysis to identify and track disease trends before they become full-blown epidemics.

Objective

Main Objective

Early detection of potential influenza and tuberculosis outbreaks using real-time twitter data.

Data Understanding
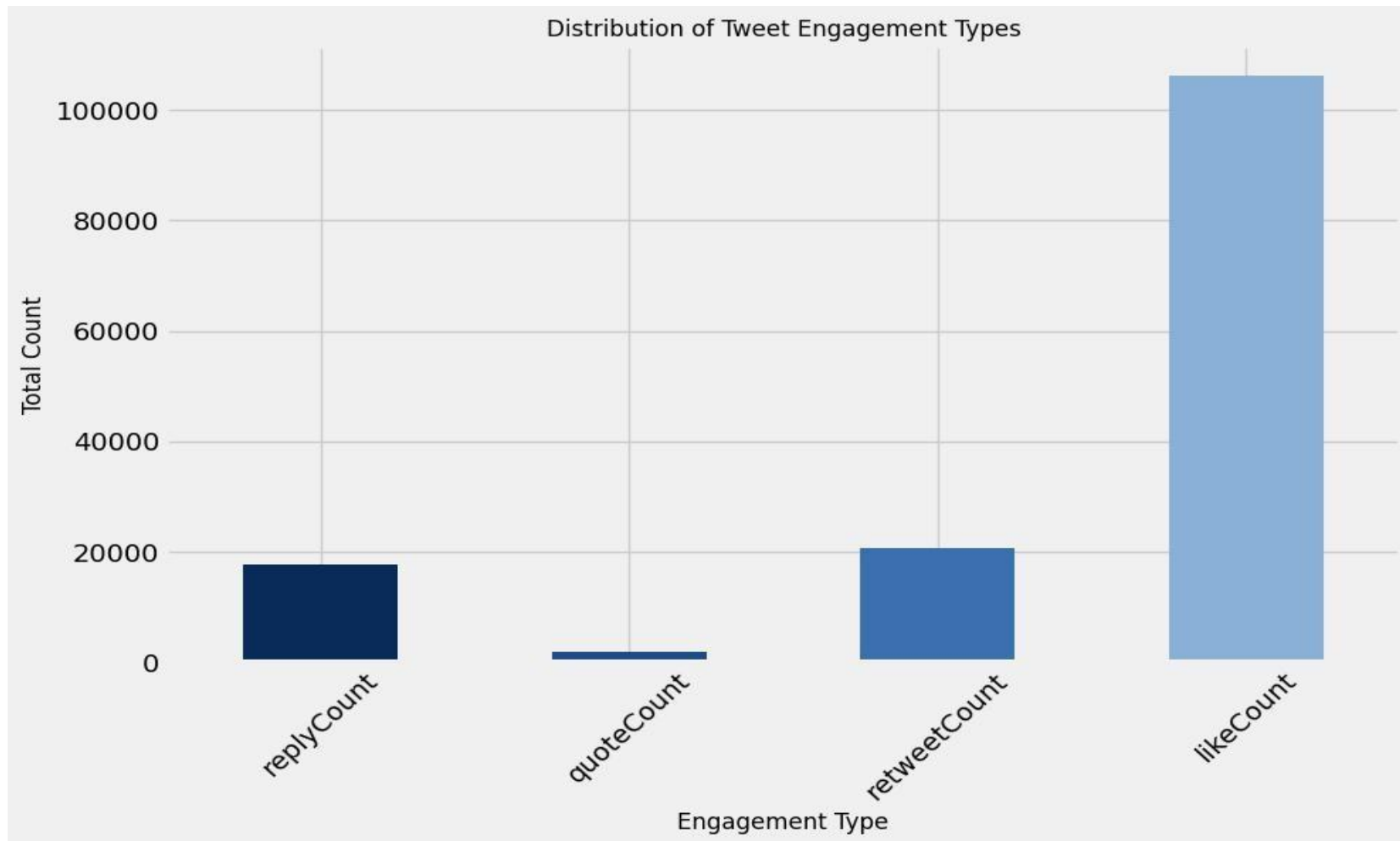
The dataset has
11600 with 20 columns

The data originates twitter.The data
was scraped using `Twibot`

TEXT

0 duplicated records

Visualization

Distribution of Tweet Engagement Types

Modelling

- We developed a tool to analyze data and tested several versions to find the most effective model for identifying important patterns, especially in new situations.

- Our chosen model performed exceptionally well, like a skilled advisor who quickly adapts to new trends and makes accurate predictions.

- This model's accuracy and reliability allow us to make faster, more confident decisions, helping us identify risks or opportunities that benefit the people we serve.

Disease Detection app
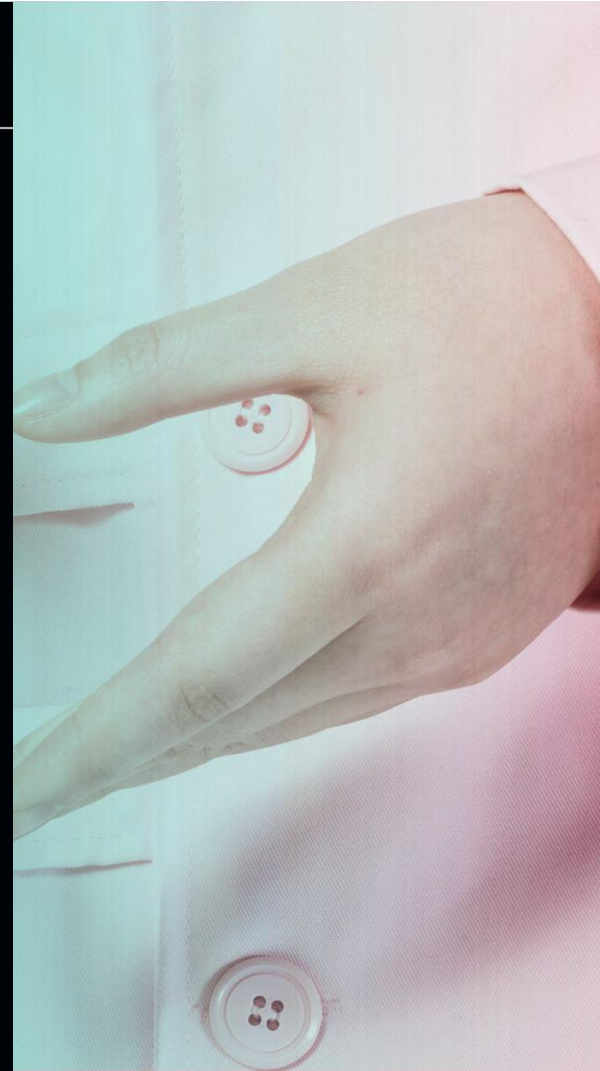

Disease Data Dashboard

Home   About   Privacy

Monitor and Analyze Disease Data

Providing insights into Tuberculosis and Flu trends to support better decision-making in public health.

Explore the Dashboard

Link To the app
Disease Tracking App

Our platform makes it easy to track and analyze disease cases over time,

How The app Works

Overview

My pharmacist friend on day 13 of intermittent fever, dry cough, lethargic. No other symptoms. Flu her pulse ox dropped below 90%. On oxygen conc. 4L maintaining 94% @ home. Natural remedies responding. Advised her to go for xray. Xray confirmed left lower lobe infiltrate and diffuse intersti or atypical pneumonia. Just like that.
Importance Score: 9752
Symptoms: fever, gastrointestinal

https://t.co/H1mmZet46j
Importance Score: 2314.5
Symptoms: No symptoms detected

🚨 Rights are irrelevant when the government directs hospitals & care homes to increase deadly re treated like flu, everything from a cold to diarrhea has a 'COVID' response. 303 lockdowns behind 2024.
Importance Score: 242.4
Symptoms: No symptoms detected

The system functions by detecting potential symptoms of tuberculosis, identifying early signs that could indicate the presence of the disease in the tweets

Recommendations

Track model performance metrics over time

Set up alerts for performance degradation.

Regularly tune and retrain your machine learning models to maintain high accuracy, especially as new data trends emerge.

Conclusion

1. Incorporate Other Related Social Media Platforms such as facebook, Instargram

2. Establish Partnerships with Health Agencies

3. Develop Clear Data Retention Policies

4. Expand Symptom Detection: Broaden the system's capability to detect symptoms of other infectious diseases, enhancing its value for monitoring various health conditions.

THANK YOU