INTRODUCTION

We introduce a visual solution to interactively predict the future events based on past tweets by collecting information about the location and time of the anticipated events, below are the major contributions:

[D1]   **Event Calendar View**

[D2]   **Map View**

[D3]   **Word Cloud View**

[D4]   **Event List view** and

[D5]. **Heatmap View**
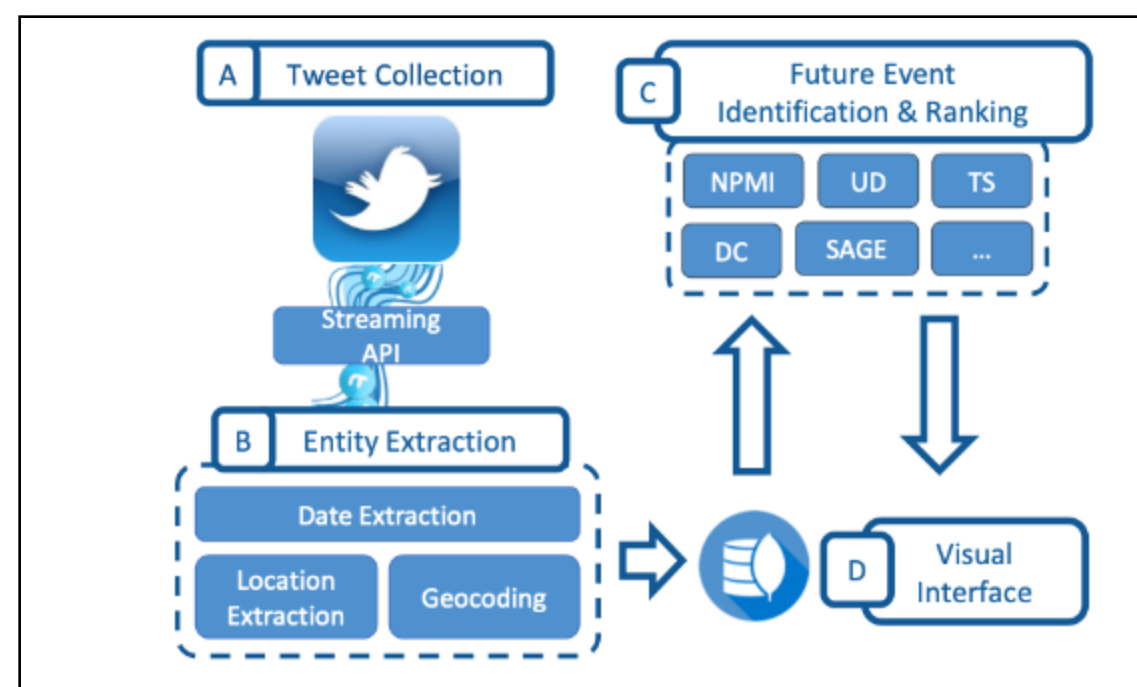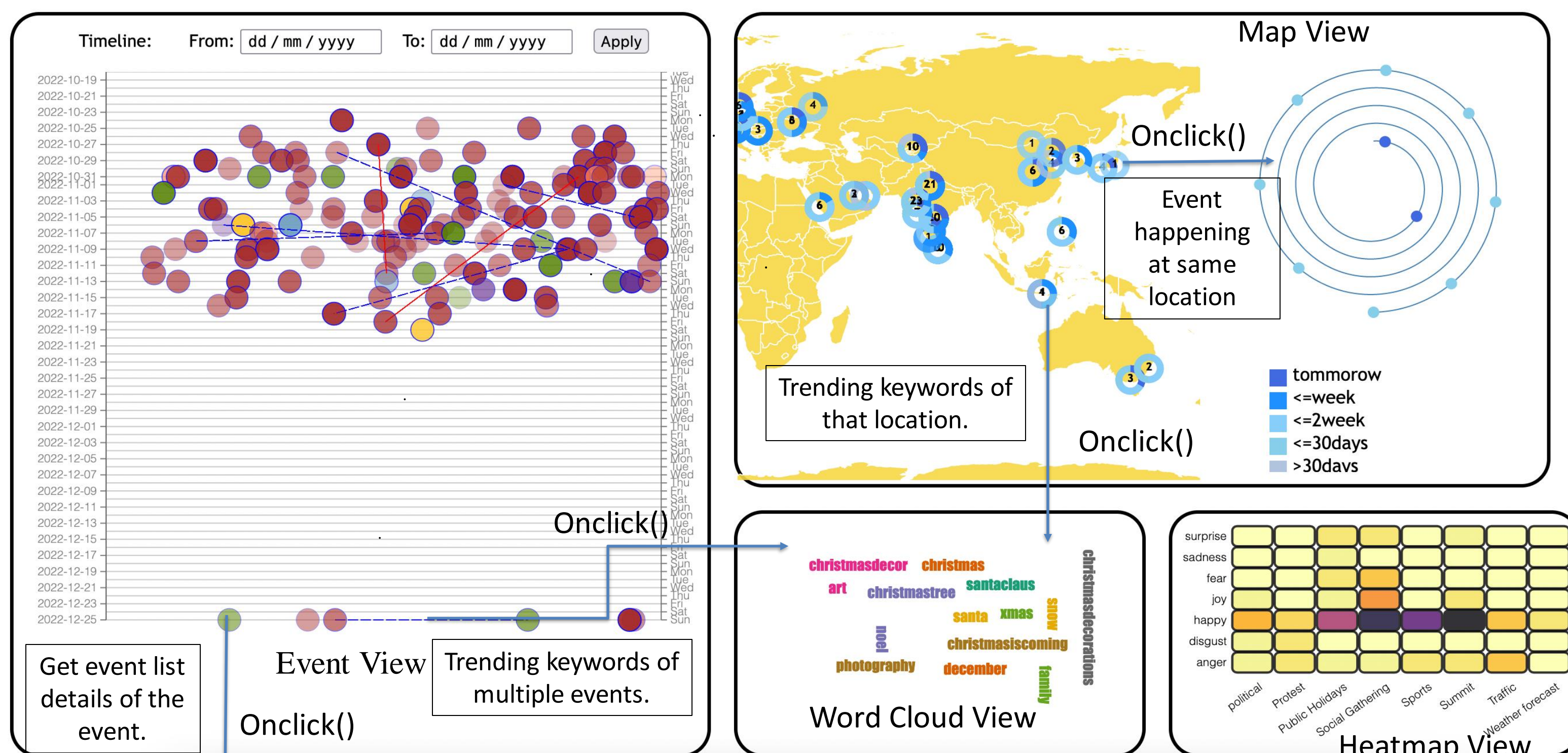
Fig 2: Dataset Processing

SYSTEM DESCRIPTION

Event Calendar View The Event Calendar View uses Twitter data to depict upcoming events by date and their relationships

Map View The map view depicts the location of the upcoming event. Each event location is represented by a donut chart, which accounts for the number of events taking place at that location.

Word Cloud View The word cloud view shows the keywords across all the events. The size of the words are an indicator of the frequency of those words in the tweets.

Event List View The first timeline bar chart shows the number of tweets in 30 days span. The second timeline bar chart shows the number of tweets in each hour in a day. The third emotion chart depicts the probability of different emotions like joy, surprise, sadness, anger, disgust, and fear.

Heatmap View The Heatmap View show the correlation between event categories and emotions.

DATASETS

- The dataset obtained from the Twitter API view includes attributes such as UserID, Event Name, Latitude and Longitude of event location, Tweet and Event Timestamps, and Hashtags.

- We have used derived attributes, like category of event tweet, emotion, uncertainty, NPMI, link ratio, hashtag ratio, user credibility, user diversity, degree centrality, and tweet similarity, using Pandas and some machine learning techniques in Python as part of the dataset.

DISCUSSION

A visualization to represent the weather conditions at a chosen location.

Using data from other social media sites to get information about future events.

CASE STUDY

Event considered: Olympic Event that took place on November 13.

Event View It is evident that the current event and another one taking place on October 29 both have similar keywords and are depicted by red dotted lines. Circles in this event view stand in for marks and colors for channels.

Map View Here the Olympic event is taking place; in this case, Berlin, Germany. Six events are being observed in Berlin over the course of two weeks. When the donut chart is clicked, a spiral chart with information about the occurrences appears, where the events are organized by date and time.

Word Cloud View Olympics, gold, run, sports, Basketball are the trending events.

Heatmap View The Olympic event is part of Sports and in that category, it is observed that happiness is the most happening emotion which signifies most people are happy with the event.

Event List View The first bar chart shows the count of tweets for each day in a 30-day span from the date of the event. There are tweets on 21st, 24th, 25th and 31st of October and on 11th November. The second bar chart shows the count of tweets for each hour in a day. There are tweets around 12am-1am and 10pm-11pm.The third chart shows the probability of emotions for the Olympic Event. Joy and Fear are the most probable emotions for the Olympic Event. The circular radar chart for Olympic Event are as follows:

Tweet Similarity:0.18 NPMI:0.62 Link Ratio:0.69 Hashtag Ratio:0.18 User Credibility: 0.62 User Diversity: 0.64 Degree Centrality:0.13

Fig 1: Crystal Ball Visualization System

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