***FACULTY OF COMPUTER SCIENCE***

# Project Proposal

*In*
*The Class of*

***CSCI6406: Visualization***

***Topic***

Visualization of Emotions by geographic location
from Tweeter Data Analysis

*By*

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***Submitted to***
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## Topic

Visualization of Emotions by geographic location from Tweeter Data Analysis

## Abstract

In today's digitalized world of technology, people commute on social media more than they commute in person as it reaches more people. Many of them like to share their thoughts to support or deny the ongoing events, share their location, share their happiness and many more important details on social media platforms. That data is available and can be used to analyze and reflected as a visualization. That data can be represented to understand their thoughts and emotions through online public commute such as tweets.

## Introduction

In this project, the main focus is on representing human emotions over the map to get the knowledge of overall reactions from the area. Certain filtering options can be used to generate the map on certain data such as province-wise, city-wise, date-wise polarity, and also with keywords. Using all those data there will be a chance to visualize the data as per requirements to understand human emotions in a better way. Considering one scenario about the election can help determine which candidate has a better chance to win the election based on sentimental analysis of tweets. Visualization of time-series can be also used to represent the popularity of candidates to determine the peak period of a particular candidate.

## Implementation

The implementation task for this project can be carried out in three steps as given below;

1. **Data Gathering**

   - Tools:
     - python
     - tweepy Library
     - json formatted data

   - Method:
     - Extraction of the tweet data from Tweeter
     - Storing tweets into json object

2. **Data Processing**

   - Tools:
     - Python
     - nltk
     - pandas
     - numpy
     - textblob

- Method:
  - Cleaning data – stop word removal, emojis removal, buzz words removal
  - Tokenization of analyzed data that can be used to visualize
  - Polarity Calculation

**3. Visualization**

- Tools
  - tkinter / JavaScript
  - d3 library
- Methods
  - Geographical provincial plots based on polarity
  - Event based Emotion Map visualization
  - Time series polarity on particular date

## Timeline to Implement

| # | Task | Detail | Due Date |
|---|---|---|---|
| **1.** | Literature Review | Visualization for sentimental data analysis using D3 | 10th February 2022 |
| **2.** | Data Extraction | Complete data collection and storing into json object | 17th February 2022 |
| **3.** | Data Processing | Data cleaning and conversion | 25th February 2022 |
| **4.** | Data Visualization | Geographical provincial plots based on polarity | 2nd March 2022 |
| **5.** | Project Update Due Date | Progression report on project | 4th March 2022 |
| **6.** | Data Visualization | Event based Emotion Map visualization and time series polarity on particular date | 20th March 2022 |
| **7.** | UI Design | Modified user experience and proper visualization | 28th March 2022 |
| **8.** | Final Project Submission | Future work implementation and project report with working project | 4th April 2022 |

## References

[1]. A. -L. Alten, G. Gadre, S. Kulkarni and C. -S. Wu, "Analyzing Happiness Index Based on Geographical Locations," 2019 2nd International Conference on Artificial Intelligence and Big Data (ICAIBD), 2019, pp. 45-51, doi: 10.1109/ICAIBD.2019.8837010.

[2]. I. Costa, R. Lima, C. G. R. dos Santos, B. S. Meiguins, A. G. M. Soares and R. Y. da SilvaFranco, "EmojiText: An Information Visualization Technique for Analyzing Phrases and Sentiments," 2021 25th International Conference Information Visualisation (IV), 2021, pp. 114-119, doi: 10.1109/IV53921.2021.00027.