**Detection of Suicide Related Posts in Twitter Data streams**

**Abstract:**

Suicidal ideation detection in social media is an emerging research area that has significant challenges. Most of the time, the public release of information about a person's suicidal intentions can be used to detect this behaviour . Our project presents a method that uses Twitter to identify and report suicide warning signs. It also learns about user changes in online behaviour.Our approach uses text-scoring to identify warning signs in text. This method can be used to detect changes in online behavior that are related to psychological distress . It is very important that every individual takes the necessary steps to prevent suicides. This can be done by identifying and reducing the suicide level in a person's life through their social media usage.We try to find out the relationship between the users suicide state and their social media friend’s suicide levels.If a particular tweet is associated with a suicide or related topic then we can easily separate the related ones from the non-suicide related ones.

**Introduction:**

World Health Organization (WHO) has estimated that 8,00,000 people die by suicide each year worldwide with at least as many suicide attempts . The grief felt in the aftermath of such an event is compounded by the fact that a suicide may be prevented. This reality of suicide has motivated WHO member states to commit themselves to reducing the rate of suicide by 20% in 2021

**Let’s go deep into the topic**

In an effort to educate the public, the American Foundation for Suicide Prevention (AFSP) has identified characteristics or conditions that may increase an individual's risk.

The three major risk factors are:

* health factors (e.g. mental health, chronic pain)
* environmental factors (e.g. harassment, stressful life events)
* historical factors (e.g. previous suicide attempts, family history).

The AFSP categorizes these warning signs as follows:

1. talk (e.g. mentioning being a burden or having no reason to live)
2. behavior (e.g. withdrawing from activities, sleeping too much or too little)
3. mood (e.g. depression, rage).

**Cause of our project:**

In order to save people life, We’ve chosen this project as social media is trending these day. Recently social media has become informal source for people. Our project is all about developing a method or technology in order to identify suicide related posts in twitter data streams and save people from doing so by giving a signal to near by police station .

Features of our project

* User centric feature (User centricity means putting the person or customer at the heart of any development process).
* Post centric feature ( Post centricity is putting post into the consideration).

**Existing Methodologies:**

* NLP BASED APPROACH
* DISTRESS CLASSIFIER APPROACH

**NLP Based Approach:**

Natural language processing (NLP) is a **subfield of linguistics, computer science, and artificial intelligence concerned with the interactions between computers and human language**, in particular how to program computers to process and analyze large amounts of natural language data.

**Distress Classifier:**

It is a method in which all the tweets are tested in order to know distress level with different algorithms like SMO (Sequential Minimal Optimization) , with a poly kernel , decision tree.

**Limitations of Existing Methods:**

* It has been perfomed only on two users
* It supports working only on twitter
* It doesn’t support other distress categories

**Proposed Method:**

* Parallel Processing : Parallel processing is **the opposite of sequential processing**. By splitting a job in different tasks and executing them simultaneously in parallel, a significant boost in performance can be achieved.

**Improvements:**

* Efficiency
* work simultaneously in twitter with multiple user posts.
* Consider a more fine-grained emotion classes such as anger, sadness, fear, etc., instead of considering four levels of distress.