**CSE523 Machine Learning**

**Prof. Mehul Raval**

# **Stress Detection**

**Week 1 Report**

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**Problem definition :** The mental health of people is being threatened by stress, worry, and sadness. Everybody's stressful lifestyle has a cause. People frequently ask for advice regarding their lives on Reddit's subreddits and post their feelings in the form of posts and tales on social media sites like Instagram. In order to determine the stress based on the input language provided, we will try to create a stress detection system using machine learning.

**Link to the dataset which we will be using:** <https://raw.githubusercontent.com/amankharwal/Website-data/master/stress.csv>

**Furthermore research about our project:**

According to the research report we read, examining physiological signals can accurately predict stress. Such signals are collected from sensors that are attached to the human body. Researchers have attempted to detect stress by using traditional machine learning methods to analyze physiological signals.

**Algorithms that we thought which can be used:**

We thought of several algorithms that can be used for the purpose of stress detection based on sentence input. Some popular algorithms include machine learning algorithms such as Naive Bayes, Support Vector Machines (SVM), and Random Forest. Naive Bayes is a simple and fast algorithm that is often used for text classification tasks, making it a good option for stress detection. SVM is a more complex algorithm that can handle non-linear data and is often used for tasks involving high-dimensional data, making it a good choice for stress detection. Random Forest is an ensemble learning algorithm that combines multiple decision trees to make predictions, and is often used for text classification tasks due to its ability to handle high-dimensional data. Another popular algorithm for stress detection is deep learning algorithms such as Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), which are well-suited for processing sequential data and can capture complex patterns in the input data. First, we intend to visualize the data using various libraries such as matplotlib and seaborn. Next, we'll preprocess the data to identify any existing correlations, dependencies, etc., and last, we'll begin applying these algorithms to our data set.