**ABSTRACT FOR AIML PROJECT**

**TITLE:** **Sentiment Sage: AI Emotion Tracker**

With artificial intelligence and machine learning that keeps on advancing, this text of sentiment analysis has proved itself to be a very essential tool to understand and interpret the human emotions of people through textual data. The purpose of this project is to implement the development of a machine learning model, one which can detect and analyze the emotional tone of user messages.In other words, the primary goal of creating an accurate and efficient model to classify messages into multiple categories is positive, negative, or neutral sentiments.

NLP techniques are used to pre-process and transform raw text data into a format that a machine learning algorithm can read from. We are using a very diverse dataset, including social media user messages, customer reviews, and other relevant sources, for training and testing our model. Some major steps include data cleaning, tokenization, stemming, and word embeddings to capture semantic meaning.

Various machine learning algorithms (logistic regression, support vector machines (SVM), deep learning including recurrent neural networks (RNN) and transformers are considered.Under each category, performance is measured by commonly accepted metrics such as accuracy, precision, recall, and F1-score.

This final model would then be able to perform real-time sentiment analysis-applications or use cases include customer service, social media monitoring, and market analysis. This kind of sentiment analysis model, with accurate detection of emotional tones, with subsequent analysis, would be able to offer very valuable insights into opinions and behaviors of the users, which could assist businesses and organizations in decision-making functions.

Team-

Charvi Sai Golagabathula

Esha Khandelwal