**TCS\_ION-RIO-45-INTERNSHIP**

Automate detection of different sentiments from textual comments and feedback Objective: To develop a deep learning algorithm to detect different types of sentiment contained in a collection of English Sentences or a large paragraph.

Software Requirements to Implement the Project:

1. Google Colab
2. Python

In Sentiment analysis, the data mainly focuses on whether the feedback to a product is :

* negative
* positive
* neutral

This provides a top level review of the product and its acceptance in the market.

Emotion Analysis provides a deeper insight of consumer emotions.

* Analyzing textual feedback to the level of reading between lines.
* Categorizing feedback and analyzing its emotion by picking up words, contexts, patterns, behaviors.
* This can be even taken to the level of individual’s expressive capability of a particular situation.

**Approaches to Text Classification**

**Rule Based Systems:** Rule-based approaches classify text into organized groups by using a set of linguistic rules. Each rule comprises of a pattern based on semantics and its predicted category.

**Machine Learning based Systems:** Text classification based on past observations. By using training data, the algorithm can learn the different associations between pieces of text and that a particular output (i.e. tags) is expected for a particular input (i.e. text).

**Feature extraction**: Transforms each text into a numerical representation in the form of a vector. E.g. bag of words [a vector represents the frequency in a predefined dictionary of words ] The algorithm is fed with training data consisting of feature sets. Once trained with enough training samples, the machine learning model can begin to make accurate predictions on unseen text with similar feature sets.