**Emotion Perception**

**Abstract**

The project is based on image recognition and its evaluation for our own suiting using Machine Learning.

Emotion perception deals with the process of identifying human emotion, typically from facial expressions as well as from verbal expressions. This is both something that humans do automatically but our task is to develop computational methodology to achieve it and we are using python and its subsequent libraries to achieve this task.

There are a number of algorithms.

But we will work with the most efficient i.e., Random Forest

Random Forest is a supervised learning algorithm. It creates a forest and makes it random. The "forest" it builds, is an ensemble of Decision Trees, trained with the "bagging" method. The general idea of the bagging method is that a combination of learning models increases the overall result.

One big advantage of random forest is, that it can be used for both classification and regression problems, which form the majority of current machine learning systems.

- It can be used to identify people in a crowd, monitor citizens for suspicious behavior by tracking identity, age, gender and current emotional state. Therefore, playing a role is surveillance and survey of potential anti-social elements.

- In the field of education, real-time learner responses can be visualized and educational content can be adapted and personalized to make it more suitable for pupils to learn proportionately.

- It can also be used to measure driver related fatigue and alert him in case of loss of sight or slacking during driving.

- Moreover, it can be personalized by the user to suit our own means.