**Stress Detection and Analysis for IT professionals using Deep Learning:**

Type:1 - FER2013 Data,

Happy, Sad, Fear, Angry, Disgust, Surprise, Neutral. ->

Total: 7 classes,

Relaxed, Broken, Anxious, Bursted, Irritated, Shocked, Neutral.

**Machine Learning:**

1. Libraries, and Data Collection,
2. Data Preprocessing, and EDA/Data Visualization;
3. Model building
4. Model Evaluation
5. Prediction on New Input Data

**Deep Learning:** Image Classification

Neural Network Technology:

Layers,

1. Input Layer,
2. Hidden Layer
3. Output Layers

Basic Model Architechture:

IL-> HL-> OL.

**IL-> HL1-> HL2 -> HL3-> OL.**

Types of Hidden Layers:

1. Convolutional
2. Pooling
3. Dropout layer
4. Dense
5. Flatten

**Computer Vision:**

Object Detection

Classification of Gender: Male/Female

Prediction of House Price: Regression.

**Task:**

1. Build a CNN model that classifies the 7 classes of images
2. Build a Computer Vision Model, that detects the human Face at LIVE.
3. Perform Analysis.
4. Connect all the three of them(CNN, CV, Analysis) through Flask.

**Our CNN Model:**

1. Input
2. Conv2D - 1
3. Conv2D – 2
4. Conv2D – 3
5. Flatten
6. Fully Connected -1
7. Fully Connected -2
8. Output

**Steps in Our CV Code:**

1. Libraries
2. Loading the models – CNN, CV
3. Draw a Rectangle
4. Generate the frames
5. Send the frame to CNN, classify
6. Return the result

CV model: HaarCascade Classifier. – Face Features Detection.

CNN model: Classify the expressions(7 Classes)

Performing Analysis:

Automatically, the model will detect the following things: