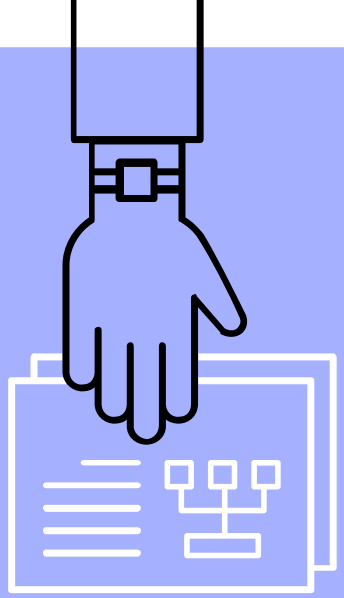
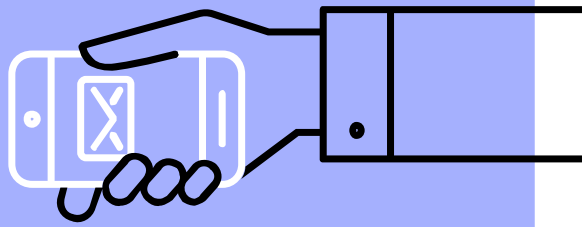
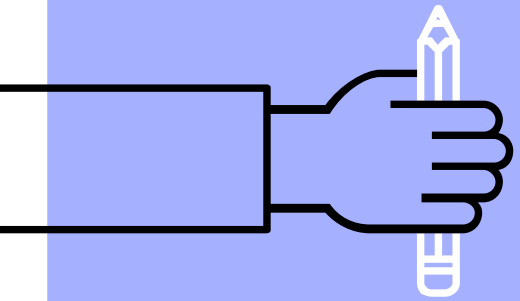
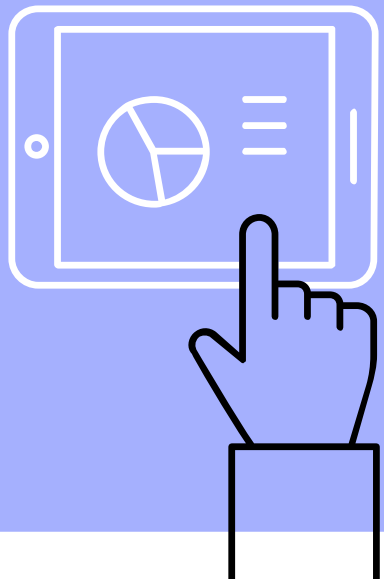




Emotion Detection

By Soham, Dev and Partth

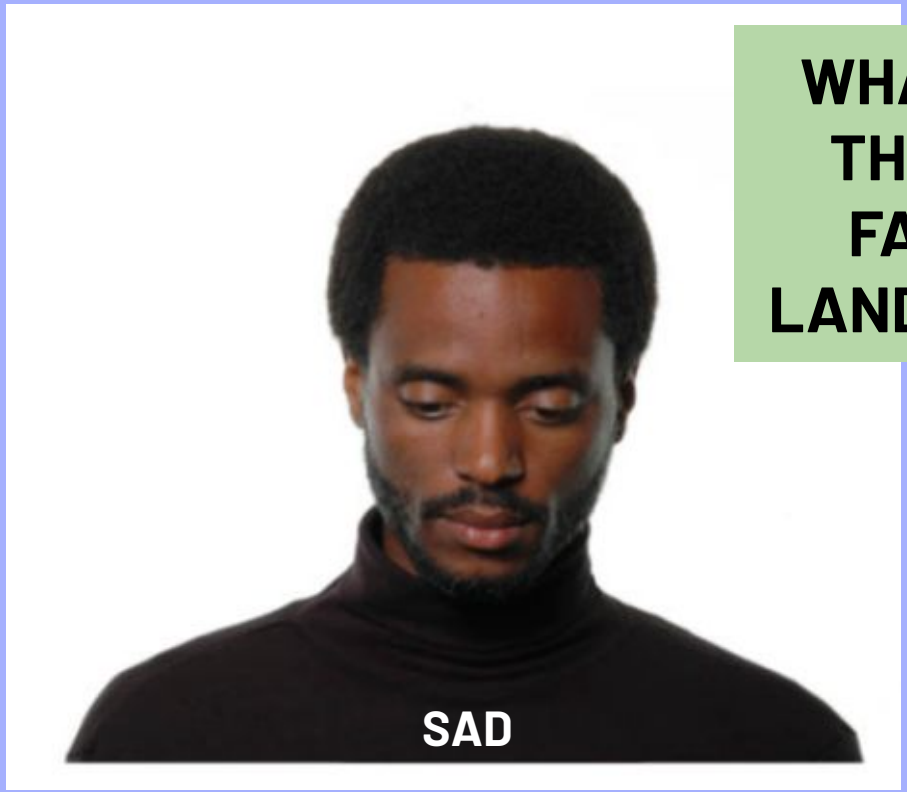




DEDICATED TO OUR FAVOURITE INSTRUCTOR WHO COULDN'T BE WITH US TODAY ;(

TYLER BONNEN

GUESS THE EMOTION



WHAT ARE THE KEY FACIAL LANDMARKS


ANGER

WHAT IS OUR PROJECT

Our project's aim was to create an AI model that could detect basic human emotions with accuracy equivalent or better than a human.

HOW DID WE DO IT

To create such a model we found a dataset, input the data to our model, we trained/taught the model and received an output. We used 4 different models in order to get the best accuracy. After this we tested each model and found the most accurate model.

WHAT IS OUR INPUT

- To build neural networks in Python, we use the packages known as tensorflow and keras

- We used a “MLP” model, but before we use the model, we need to pre-process the data

- We detect the face, find the important parts of the subject’s face eg: eyes, nose, mouth, and add facial landmarks

- We find the distance between each landmark.

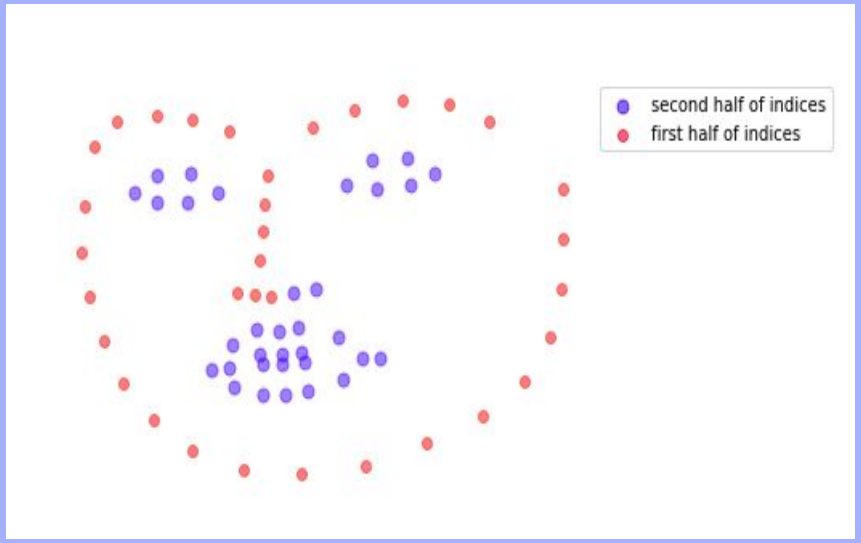
THE PROCESS

- The distances are then run through a model we created

- The model has a input layer, several hidden layers and a output layer. For the best accuracy we change the amount of hidden layers and the amount of neurons present in them

- This model uses data and gives us an output

MORE ABOUT OUR MODELS



WHAT IS OUR OUTPUT

ANGRY

HAPPY

SAD

SURPRISE

NEUTRAL

- The output will be the emotion the subject is feeling

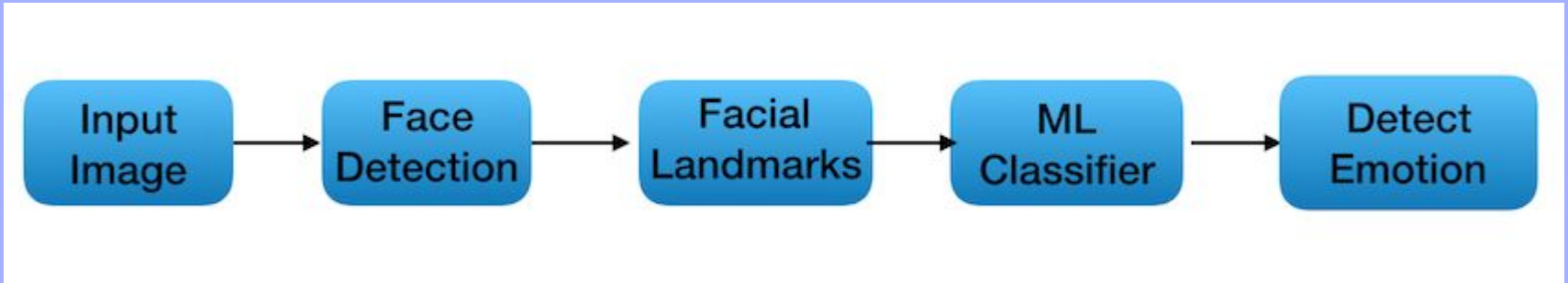
-The KNN model got a very poor accuracy of only 36%

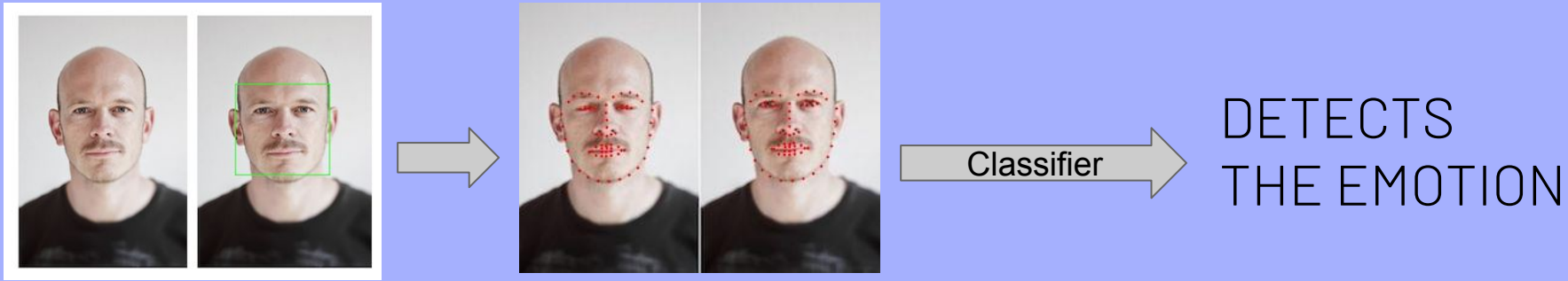
- We got an accuracy of 55% with MLP

- Our transfer learning model got 67%

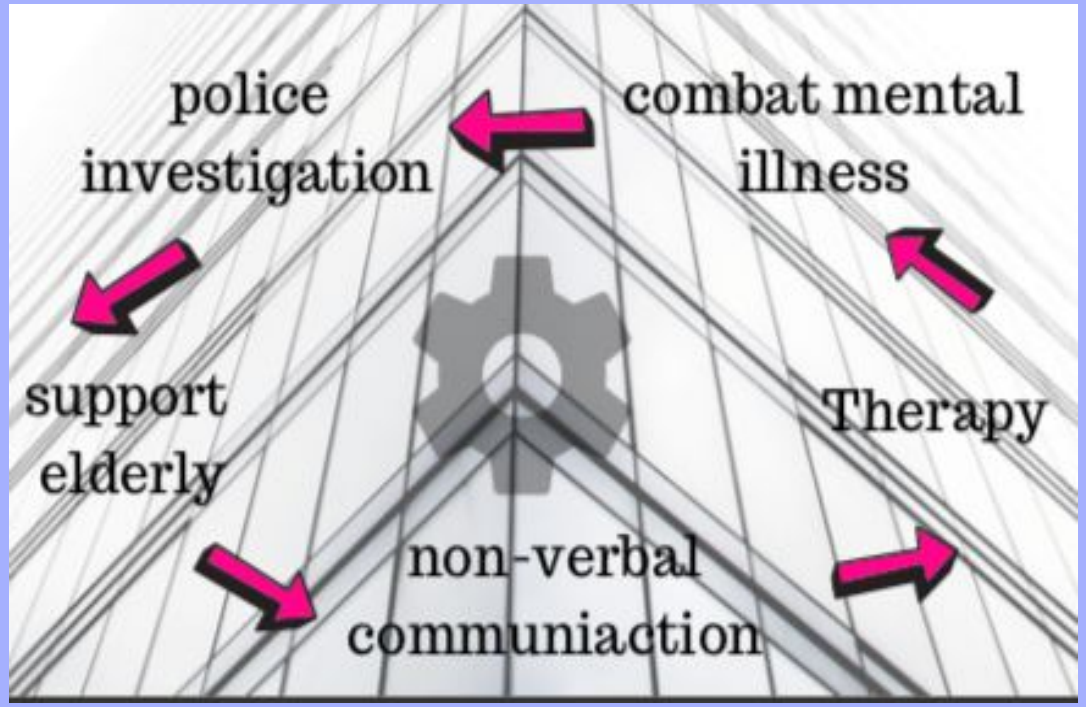
- Human accuracy is around 65%

MACHINE LEARNING PROCESS





Real-World Application



THE JOURNEY

THE COURSE

- LEARNING PYTHON AND ABOUT ITS PACKAGES
- LINEAR AND LOGISTIC REGRESSION
- NEURAL NETWORKS
- TALKS ABOUT DIFFERENT USES OF AI

PROJECTS

- INTERPRETING INPUTS AND EXECUTING AN OUTPUT
- MAKING WORKING MODELS FOR OUR TASK AT HAND
- TALK ABOUT AI STARTUPS AND VENTURE CAPITAL

QUESTIONS

THANK YOU