

ALMA PROJECT



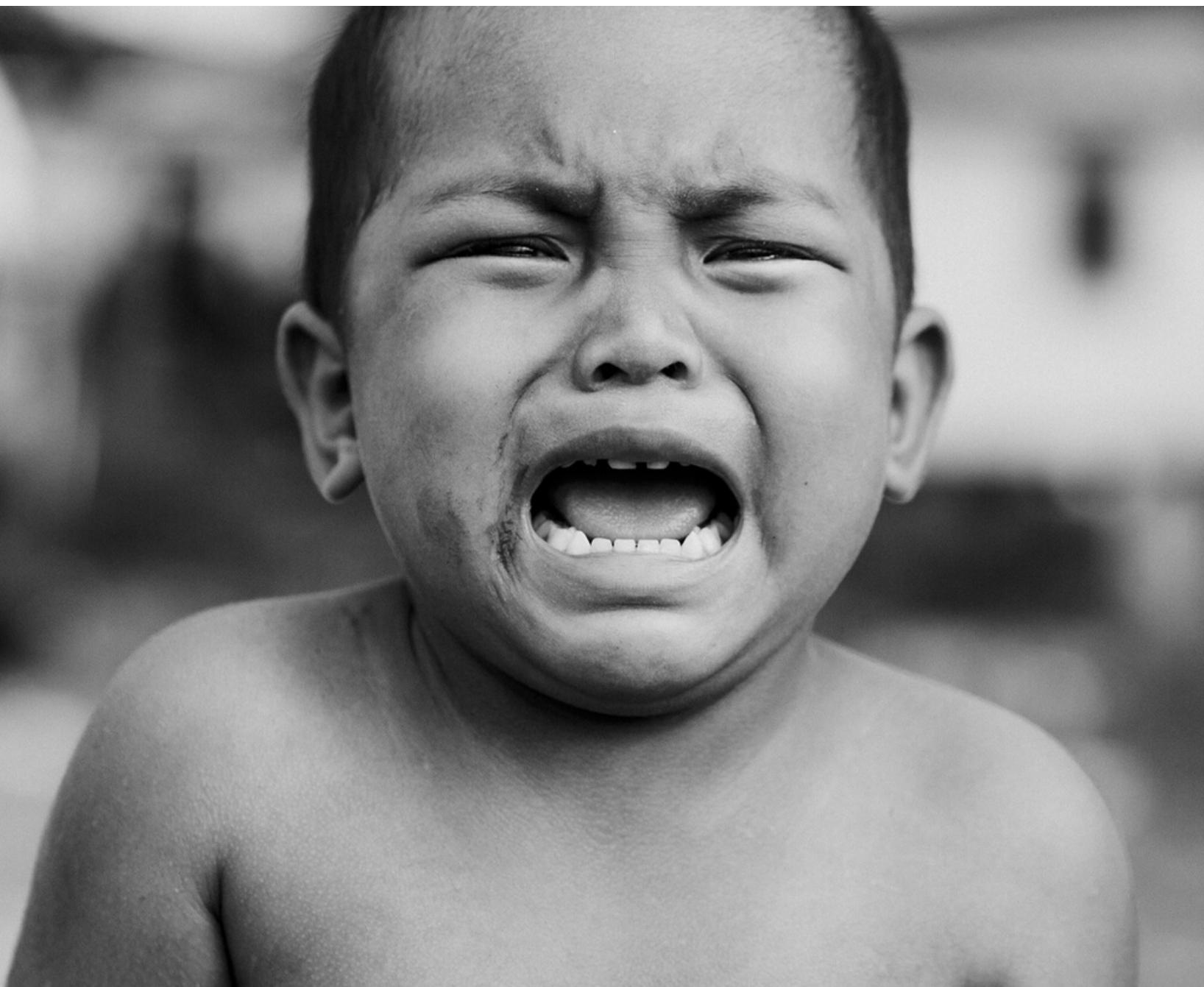
FACIAL EMOTION
RECOGNITION

WHY?

Algorithm are helping the world to grow and make everything simpler and faster.

While we learn how to deal with those and data, we are forgetting the main point, the people.

Find a way to reflect what make them human beings, their emotions



HOW?

1

Choose a dataset & train a NN

2

Predict emotions on a picture

3

Frame to frame, predict emotions
on a video or stream

```
import pandas  
import numpy  
import keras  
import sklearn  
import os  
import matplotlib  
import cv2  
import PIL  
import tkinter  
import glob  
import sqlalchemy
```

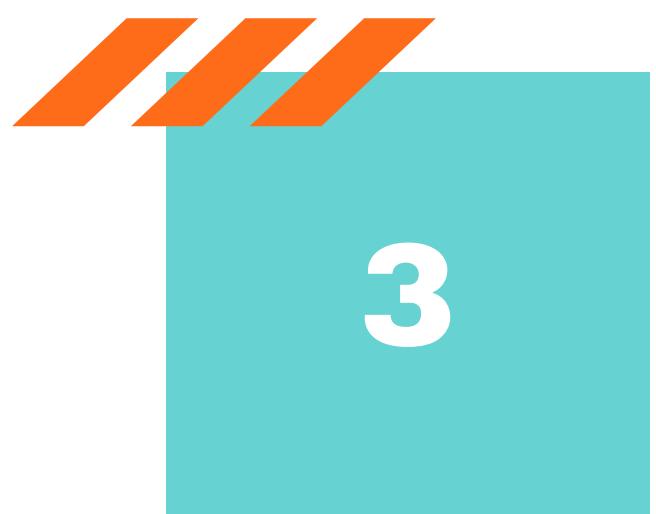




Extended Cohn-Kanade Dataset (CK+)
128x128
99.949% accuracy



Extended Cohn-Kanade Dataset (CK+)
48x48
100% accuracy



Extended Cohn-Kanade Dataset
(CK+) + FER2013
48x48
67.065% accuracy

IT WASN'T EASY

3 models

incl. cats and dogs model
by Boyander



THE WINNER

ugly and not the best, but THE CHOSEN ONE

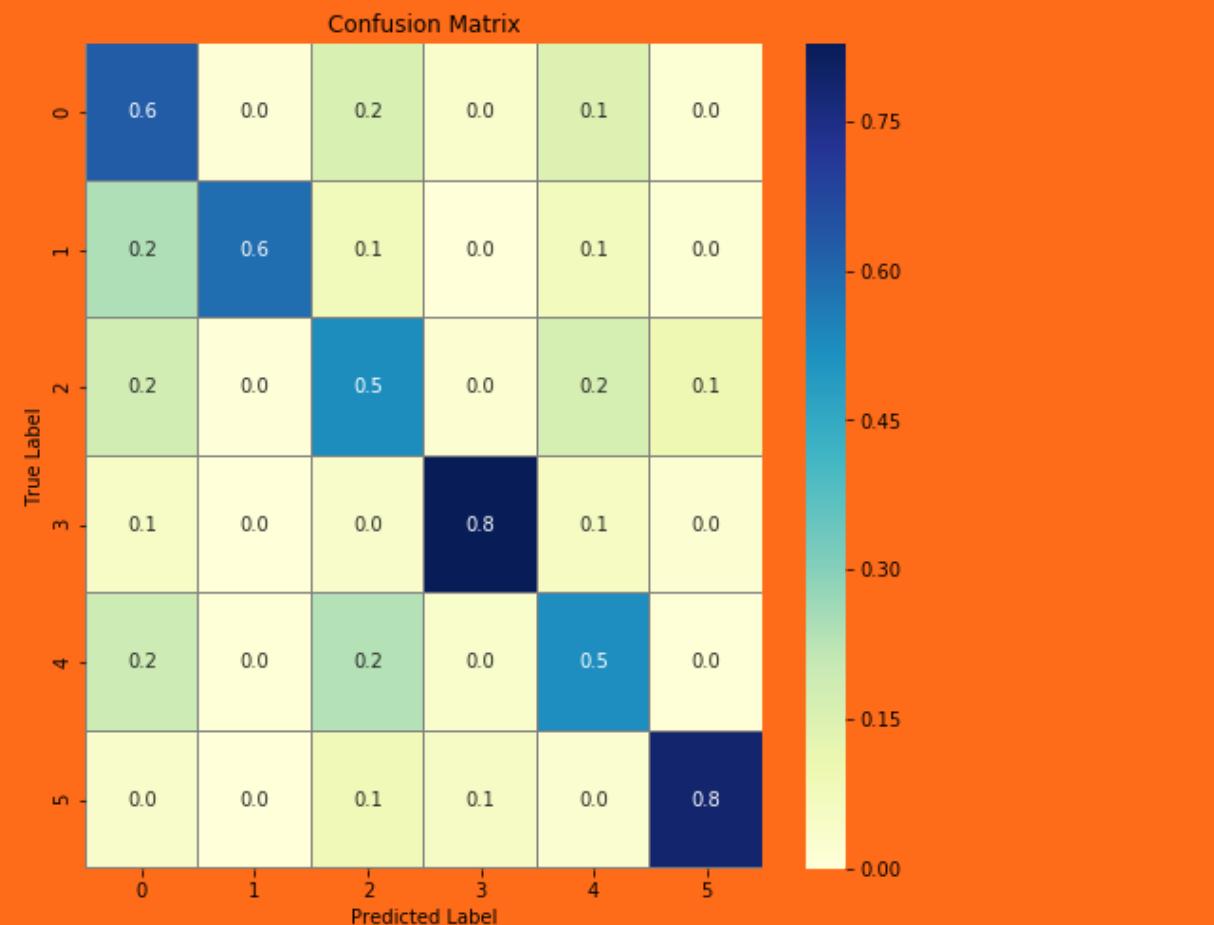
```
model = Sequential()
model.add(Conv2D(64, (3, 3), input_shape=(48, 48 ,1), padding='same', activation='relu'))
model.add(Conv2D(64, (3, 3), activation='relu', padding='same'))
model.add(MaxPooling2D(pool_size=(2, 2)))
model.add(BatchNormalization())
model.add(Dropout(0.2))

model.add(Conv2D(128, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(128, (3, 3), activation='relu', padding='same'))
model.add(MaxPooling2D(pool_size=(2, 2)))
model.add(BatchNormalization())
model.add(Dropout(0.2))

model.add(Conv2D(256, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(256, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(256, (3, 3), activation='relu', padding='same'))
model.add(MaxPooling2D(pool_size=(2, 2)))
model.add(BatchNormalization())
model.add(Dropout(0.2))

model.add(Conv2D(512, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(512, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(512, (3, 3), activation='relu', padding='same'))
model.add(MaxPooling2D(pool_size=(2, 2)))
model.add(BatchNormalization())
model.add(Dropout(0.2))

model.add(Flatten())
model.add(Dense(4096, activation='relu'))
model.add(Dropout(0.5))
model.add(Dense(num_classes, activation='softmax'))
```



epochs = 25
batch = 50

DEMO TIME

are you ready for ALMA?



المشاعر

*almashaeir means emotion in Arabic

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DATAMAD2019
love you, always



THANK YOU



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