



ONLINE OFFERS DETECTOR

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1. INTRODUCTION



```
graph LR; A[Input Image] --> B[Preprocessing]; B --> C[Text Detection]; C --> D[Text Recognition]; D --> E[Text Output]
```

Input Image

Preprocessing

Text Detection

Text
Recognition

Text Output

HOW TO GET DATA? WEB SCRAPING.



دانكن السعودية
@DunkinDonutsKSA

اعصاب اليوم تهديها بقهوة دانكن به ريال بس

Translate Tweet

قهوتك السوداء
الحجم اللي تبيه
بـ 5 ريال

17/10/2021
*حتى نقاد الكمية من الفرع
DUNKIN'

4:00 pm · 19 Oct 21 · Twitter for iPhone

27 Retweets 40 Quote Tweets 96 Likes

دانكن السعودية
@DunkinDonutsKSA

عرض الخمستريل مستمر حتى نهاية اليوم الثلاثاء

Translate Tweet

للمشروب
الذي
تدري
بـ 5 ريال

كايتشينو
شوكولاتة
ساختنة
لاتيه
موكا

17/8/2021
الحجم الصغير
*حتى نقاد الكمية من الفرع



3.

IMAGE PREPROCESSING

IMAGE PREPROCESSING GOALS

**Sharp
character
borders**

High contrasts

**Well aligned
characters**

**Minimize pixel
noise**

IMAGE PREPROCESSING STEPS

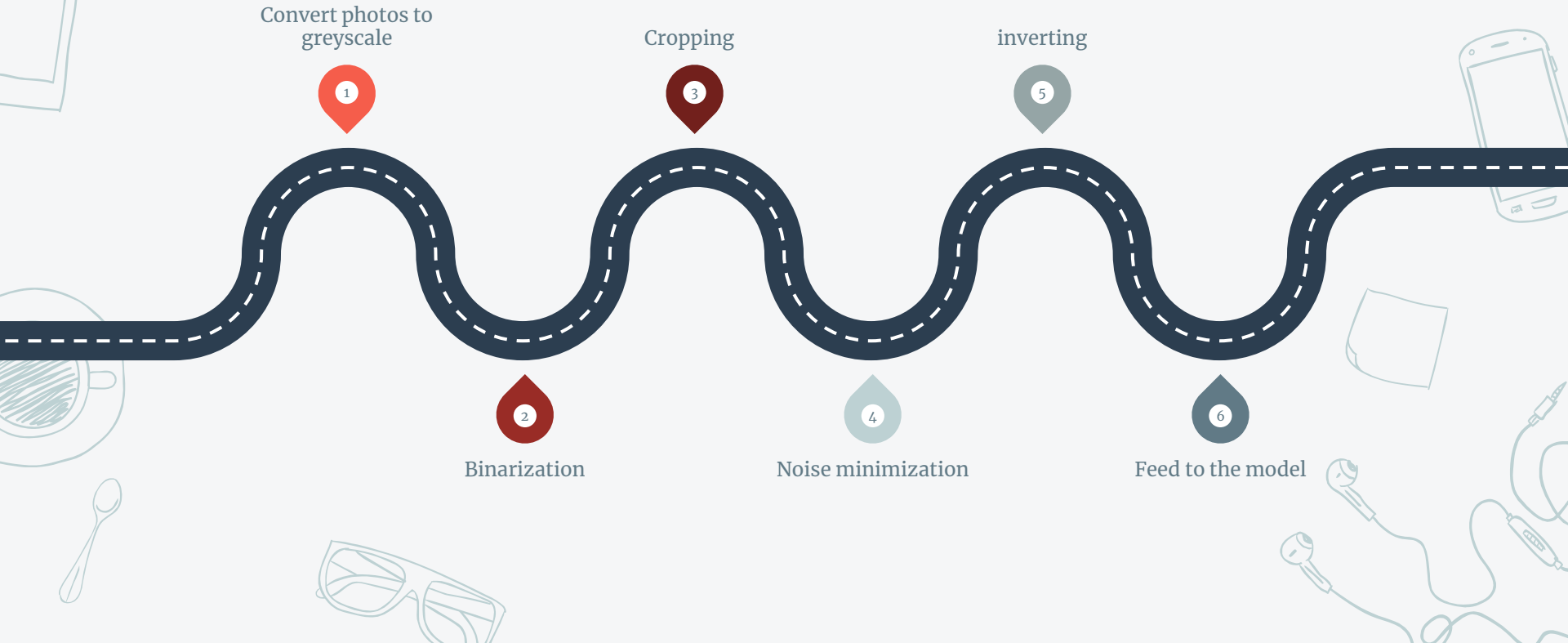




IMAGE PREPROCESSING EXAMPLE

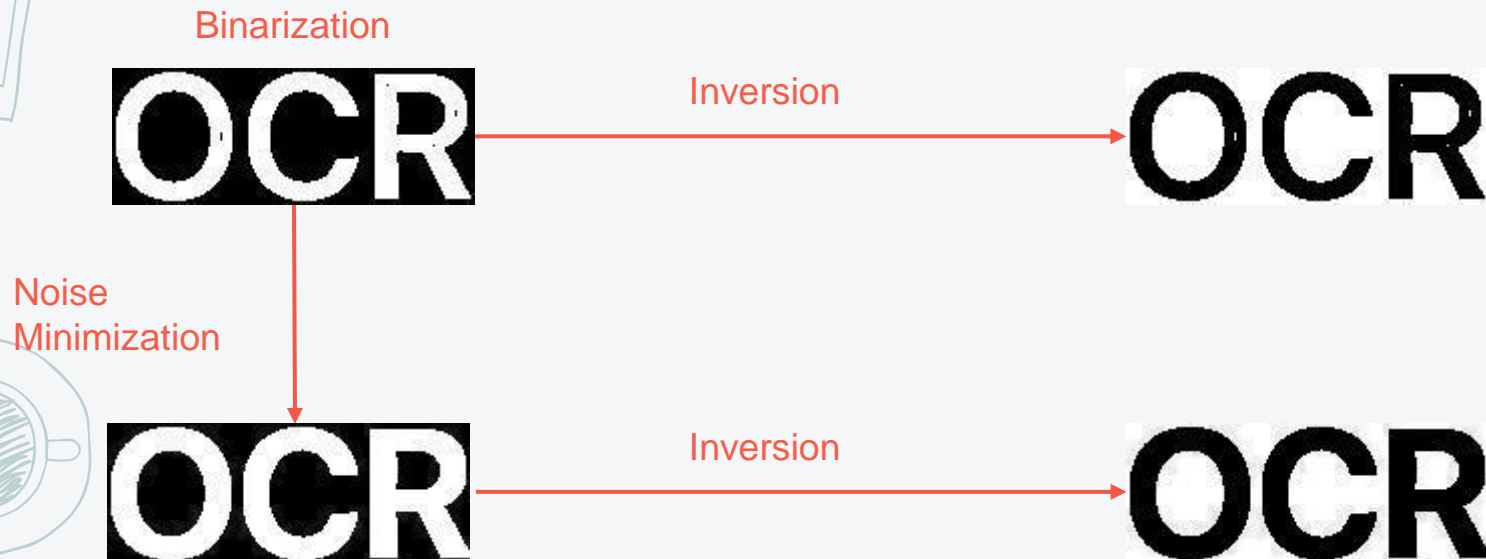


Now you can use **OCR**
on the LINE app too!

If you want to change the words in an image into **text**,
try out the OCR function!



IMAGE PREPROCESSING EXAMPLE

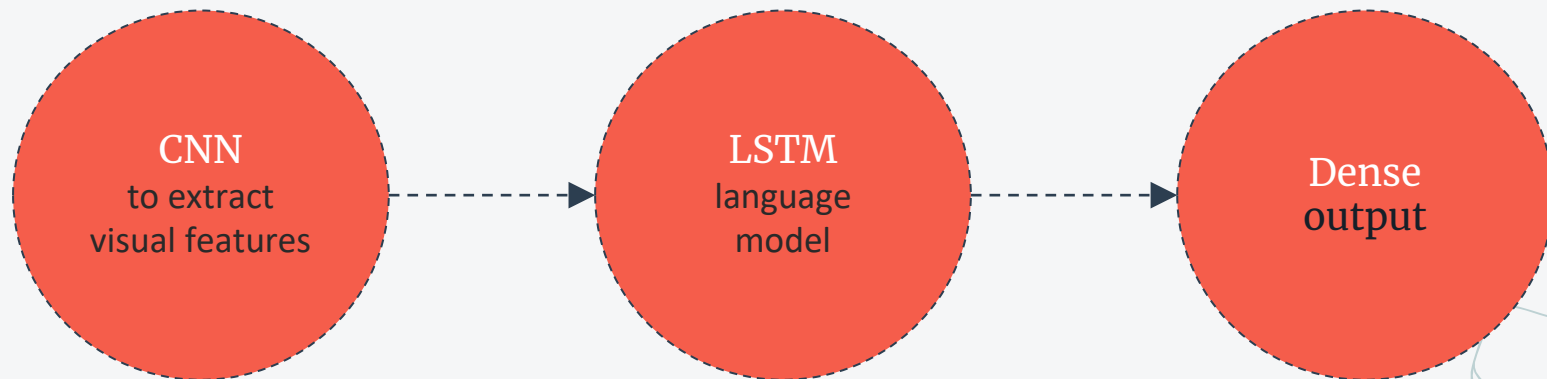


4.

MODEL TRAINING



METHODOLOGY



1st model



```
x = Conv2D(8, 3, activation="relu",  
padding="same")(input_img)  
x = Conv2D(16, 3, activation="relu",  
padding="same")(x)  
x = MaxPooling2D()(x)  
x = Conv2D(32, 3, activation="relu",  
padding="same")(x)  
x = Conv2D(64, 3, activation="relu",  
padding="same")(x)  
x = MaxPooling2D()(x)  
Dense(128, activation="relu",  
name='dense_in')
```

2nd model



```
Dense(128, activation="relu",  
name='dense_in')  
x = Bidirectional(LSTM(64,  
return_sequences=True  
x = Bidirectional(LSTM(64,  
return_sequences=True))
```

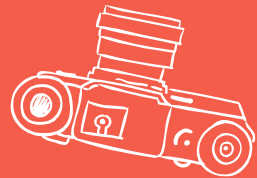
3rd model



```
x = Bidirectional(LSTM(128,  
return_sequences=True))(rnn_in)  
x = Bidirectional(LSTM(64,  
return_sequences=True))(x)  
x = Bidirectional(LSTM(64,  
return_sequences=True))(x)
```

5.

RESULTS



USING ARABIC TEXT

لغة رار ار راة', '**لة رار ار راة'**', '**لة رار ار راة'**', '**لة رار ار راة'**', '**لة رار ار راة'**', '**لة رار ار راة'**'
[predictions رارة رارة رارة رارة رارة رارة]

1ST MODEL

Epoch 20/20

500/500 [=====] - ETA: 0s - loss: 1.9852 - accuracy: 0.0036

iz06

A9JJR7U0x2

Ue

w7tQ

5dltChFK

f6WdcCm8YZ

jwoS

vswQa

fQ

n2xFlnVecr5

ZHJOR

d4RK

predictions ['iz06', 'A9JJR7U0x2', 'Ue', 'w7tQ', '5dltChFK', 'f6WdcCm8YZ', 'jwoS', 'vswQa', 'fQ', 'n2xFlnVecr5', 'ZHJOR', 'd4RK']

500/500 [=====] - 59s 118ms/step - loss: 1.9852 - accuracy: 0.0036

2ND MODEL

Epoch 20/20

500/500 [=====] - ETA: 0s - loss: 1.1004 - accuracy: 0.0027

wuE

mcEE

xlatmZ

tjvjfp9x

d9i

VD5xwL

FQq

eyIbX

egysp

zU

08

WtLLcT

predictions ['wuE', 'mcEE', 'xlatmZ', 'tjvjfp9x', 'd9i', 'VD5xwL', 'FQq', 'eyIbX', 'egysp', 'zU', '08', 'WtLLcT']

500/500 [=====] - 98s 197ms/step - loss: 1.1004 - accuracy: 0.0027

3RD MODEL

Epoch 20/20

500/500 [=====] - ETA: 0s - loss: 1.0507 - accuracy: 0.0027

1dg

pqsM

tVqUs

AwRtol

Yt

oCWqxTK7G8

TX5OL

P8sWo85U

E4TpMKD

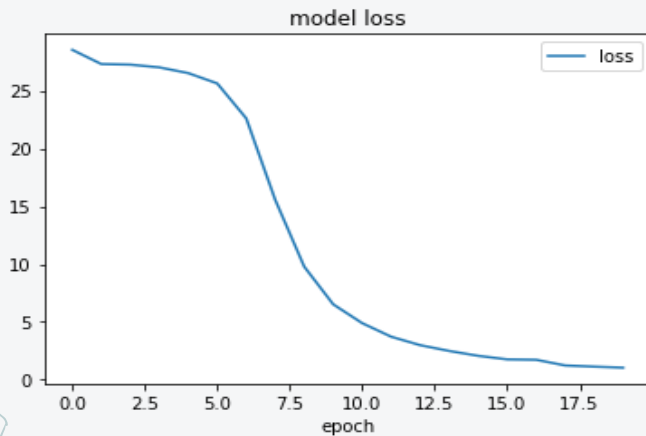
VMD

psrkwdBav

mcQy0A

predictions ['1dg', 'pqsM', 'tVqUs', 'AwRtol', 'Yt', 'oCWqxTK7G8', 'TX5OL', 'P8sWo85U', 'E4TpMKD', 'VMD', 'psrkwdBav', 'mcQy0A']

500/500 [=====] - 115s 230ms/step - loss: 1.0507 - accuracy: 0.0027



6.

TELEGRAM BOT

Search in Telegram for @OffersKSABot





1.

RECOMMENDATIONS

RECOMMENDATIONS

Use preprocessed and labeled pictures for training

Train with Arabic text

Use different methods



THANKS!

Any questions?

