

Improving Business Marketing Using Logo Detection

By
Wesam Abu Shunnar
Mohammad Asaad

Outline

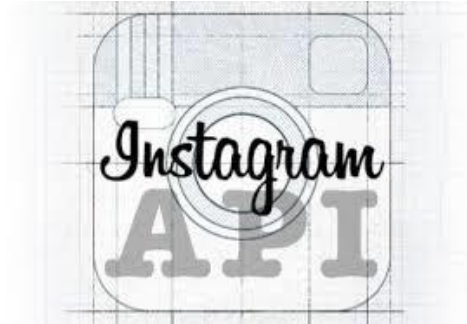
— — —

- Introduction
- Project tools
- Progress of project
- Limitation of Project
- Future work
- View a demo for the project

Introduction

— — —

- This project aim to develop an application that will analyze the images from the social media.
- The base of this project is detecting logos in collected images using machine learning that will be done through Neural Network that is developed and trained using TensorFlow.
- The application will depend on collecting related images and their info (date and location) from social media -Instagram and Twitter- and search for the company's logo in these images.
- All of these information are then gathered in an automatically generated report that helps the company team to identify valuable leads and turn their marketing campaigns into a better direction and make any necessary improvements to achieve any future goals.



Four Stages Of Progress



Logo
Detection

Test Logo
detection module

Collecting
images

Generate
Reports

Training the module

— — —

- The base of this project is detecting logos in collected images using Google Deep Learning library TensorFlow. This API can be used to detect, with bounding boxes, objects in images using pre-trained models to detect custom objects(logos in our case).
- ssd_mobilenet_v1_coco (30ms)
- faster_rcnn_resnet50_coco (89ms)

Step 1: Collecting training set

Step 2: Labeling the images

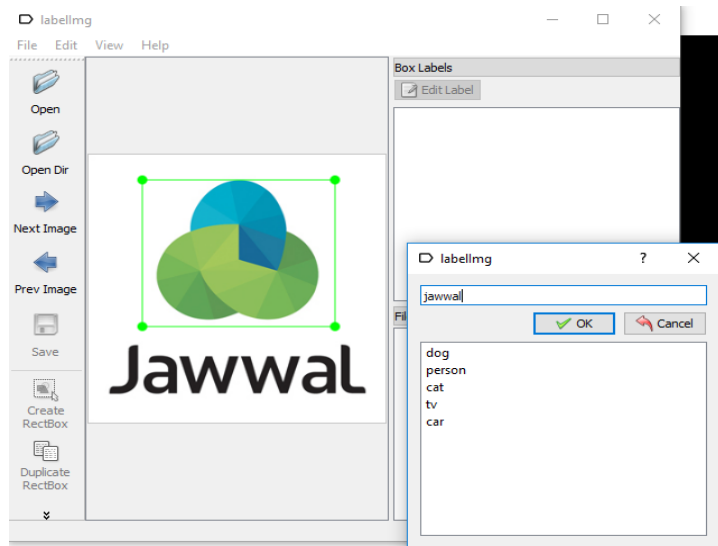
Step 3: Convert xml to csv

Step 4: Convert csv to
Tensorflow record

Step 5 : Create label map

Step 6: Training the module

Step 7 : Exporting tensorflow graph



Registration form

➤ 50-100 images that contains logo

Contact US to train a model for detecting your own Logo

[HOME](#) [LOGOUT](#)

Name:

Email:

Logo Name:

Logo Image:

No file chosen

Model Name:

Comment:

Contact US


```
graph LR; A((Logo Detection)) --- B((Test Logo detection module)); B --- C((Collecting images)); C --- D((Generate report));
```

Logo Detection

Test Logo
detection
module

Collecting
images

Generate
report

Test Logo detection module

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- Test uses Flask web app (python code and html page).
- Allows the user to test the module by uploading an image, search for logo in it, then draw a rectangle around it.

Logo Detection

Image extension should be: jpeg, jpg, png (case-insensitive)

اختيار ملف

لم يتم اختيار أي ملف

Upload

original



original
jawwal

Logo Detection

Image extension should be: jpeg, jpg, png (case-insensitive)

اختيار ملف

لم يتم اختيار أي ملف

Upload

jawwal



original
jawwal

```
graph LR; A((Logo Detection)) --- B((Test Logo detection module)); B --- C((Collecting images)); C --- D((Generate report))
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Logo Detection

Test Logo
detection module

Collecting
images

Generate
report

Collecting images

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- Social media are the main source for collecting images.
- In this application the focus will be on Instagram and Twitter, to search for images that contains the desired logo.

Twitter and Instagram

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- Both Twitter and Instagram allows developers to search for tweets or posts using their own Search APIs.
- First the developer need to register an account into Twitter and Instagram developer, then the user will get keys and tokens, which are used to authenticate his application for using the search APIs.



Twitter

- There are three types of search, standard search, premium search and enterprise search.
- Premium search allows the application to access last 30 days of Tweets or access Tweets from as early as 2006 for free.



Instagram

- Instagram has seven endpoints, users, relationships, media, comments, likes, tags and locations.
- In this application, images search done by two ways, either by hashtag or by location.

Twitter Streaming

— — —

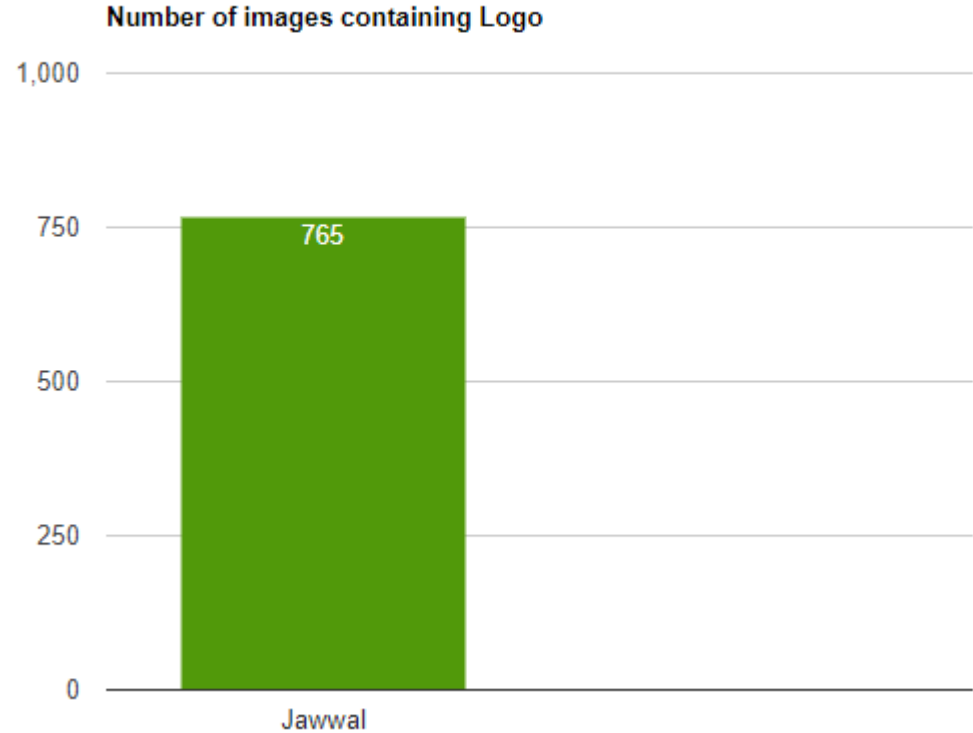
- Twitter also provides a streaming API that allows the developer to start a stream that listens to tweets that contains the desired text to be searched.
- In our case the logo's name or hash tag to be searched.

Results

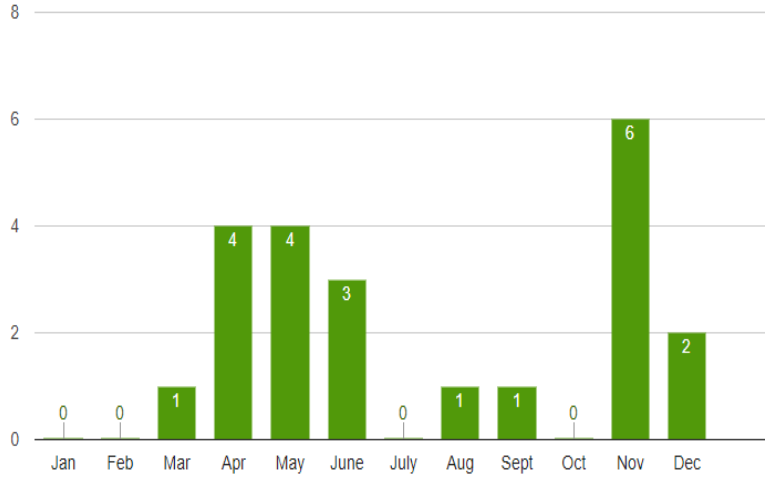
Images collected by hashtag

— — —

This chart shows how many of the collected images contain the logo.

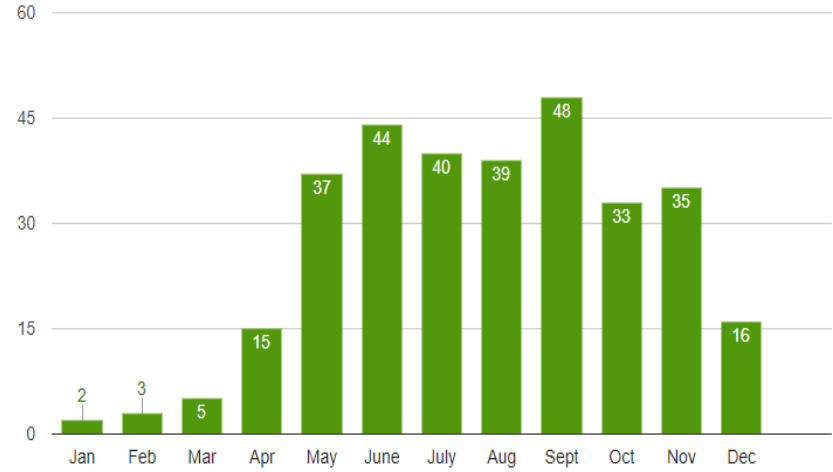


spread of Jawwal Logo along the monthes in 2014



Number of images containing jawwal logo in 2014

spread of Wataniya Logo along the monthes in 2015

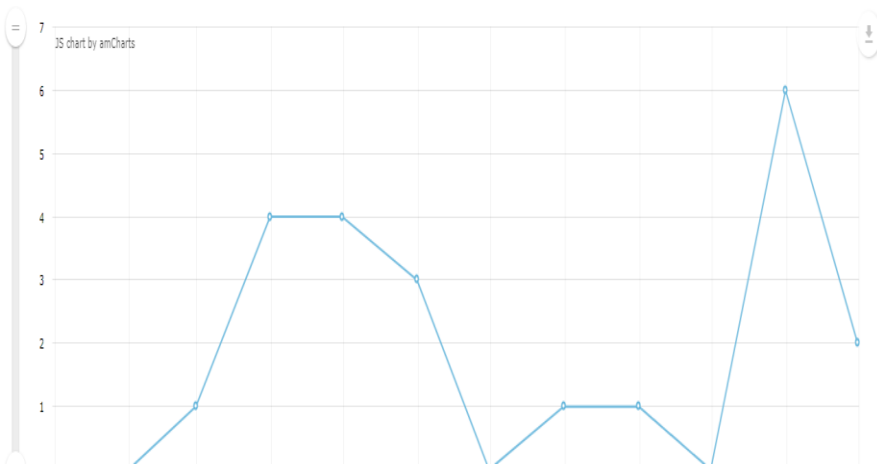


Number of images containing jawwal logo in 2015

Jawwal Logo on the last 5 years

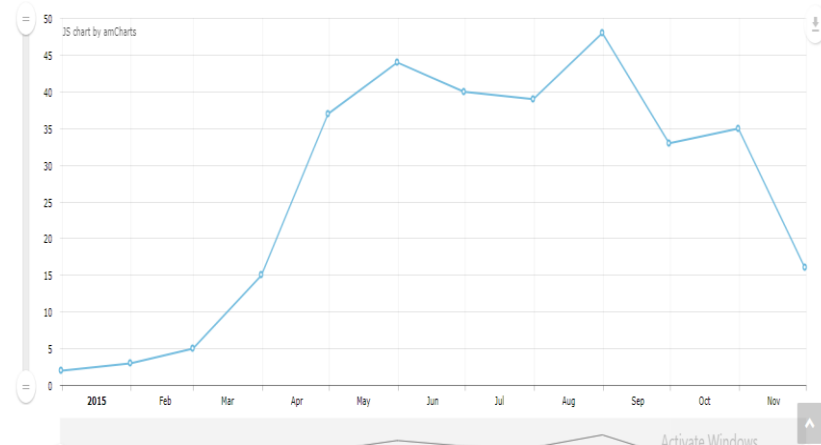
[HOME](#) [BACK](#) [LOGOUT](#)

Jawwal Logo in 2014



Number of images containing jawwal logo in 2014

Jawwal Logo in 2014 in 2015



Number of images containing jawwal logo in 2015

Images collected by location

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This way is used to collect images from Palestinian cities using location id.

WHERE DO YOU WANT TO SERARCH FOR YOUR LOGO ?

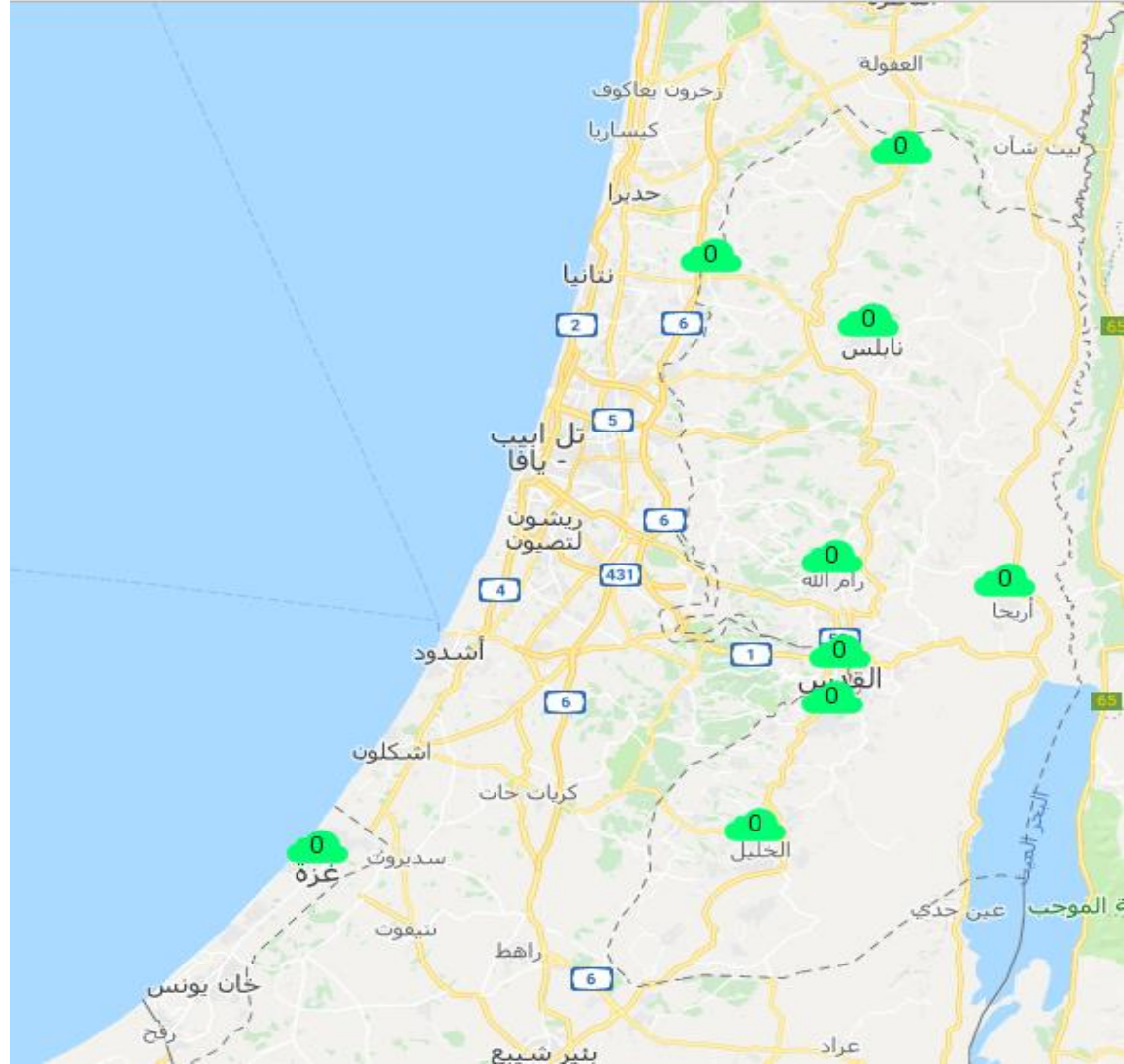
- ☐ Nablus
- ☐ Ramallah
- ☐ Jerusalem
- ☐ Bethlehem
- ☐ Jenin
- ☐ Tulkarm
- ☐ Hebron
- ☐ Tubas
- ☐ Gaza

Search for logo in instagram

Images collected by location

— — —

Google map used to view
corresponding number of
images that contain the
logo for each city.



```
graph LR; A((Logo Detection)) --- B((Test Logo detection module)); B --- C((Collecting images)); C --- D((Generate report))
```

Logo Detection

Test Logo
detection module

Collecting
images

Generate
report

Generate Report

— — —

After all data has been processed, it's important to export the findings into high quality reports ready for meetings and presentations.

jawwal Logo on social media

This Report shows the fame of your Logo on Twitter and Instagram

images collected from Social Media either by hashtag ob by location

First : images collected By Hashtag

Number of images collected : 1900

Number of images containing Logo : 765

Spread of Logo among monthes in the last 5 years

Monthe	2014	2015	2016	2017	2018
January	0	2	12	13	10
February	0	3	16	10	5
March	1	5	4	6	8
April	4	15	13	5	2

Limitations

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- Time
- Resources, Enterprise search not free.
- Limitation of instagram API and twitter API, which allow collecting images less than expected, makes the results less accurate.

Future Work

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- Expand the source of images like Facebook.
- Make it an API instead of just a web application.
- Add a sentiment analysis tool to see in what context the image is.

Conclusion

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- Detect all this works manually will take time, money, and effort.
- But, for all that to be automated and for an application to do the job would be so good that it saves so much.
- All of these information are then gathered in an automatically generated report.

Any Questions?



A white, hand-drawn style speech bubble with a small tail pointing towards the bottom center, set against a textured brown corkboard background. The bubble contains the text "Thank you!!" in a black, casual script font.

Thank
you!!