OCR with a Neural Net II

Max Kleiner

4 min read · 17 hours ago


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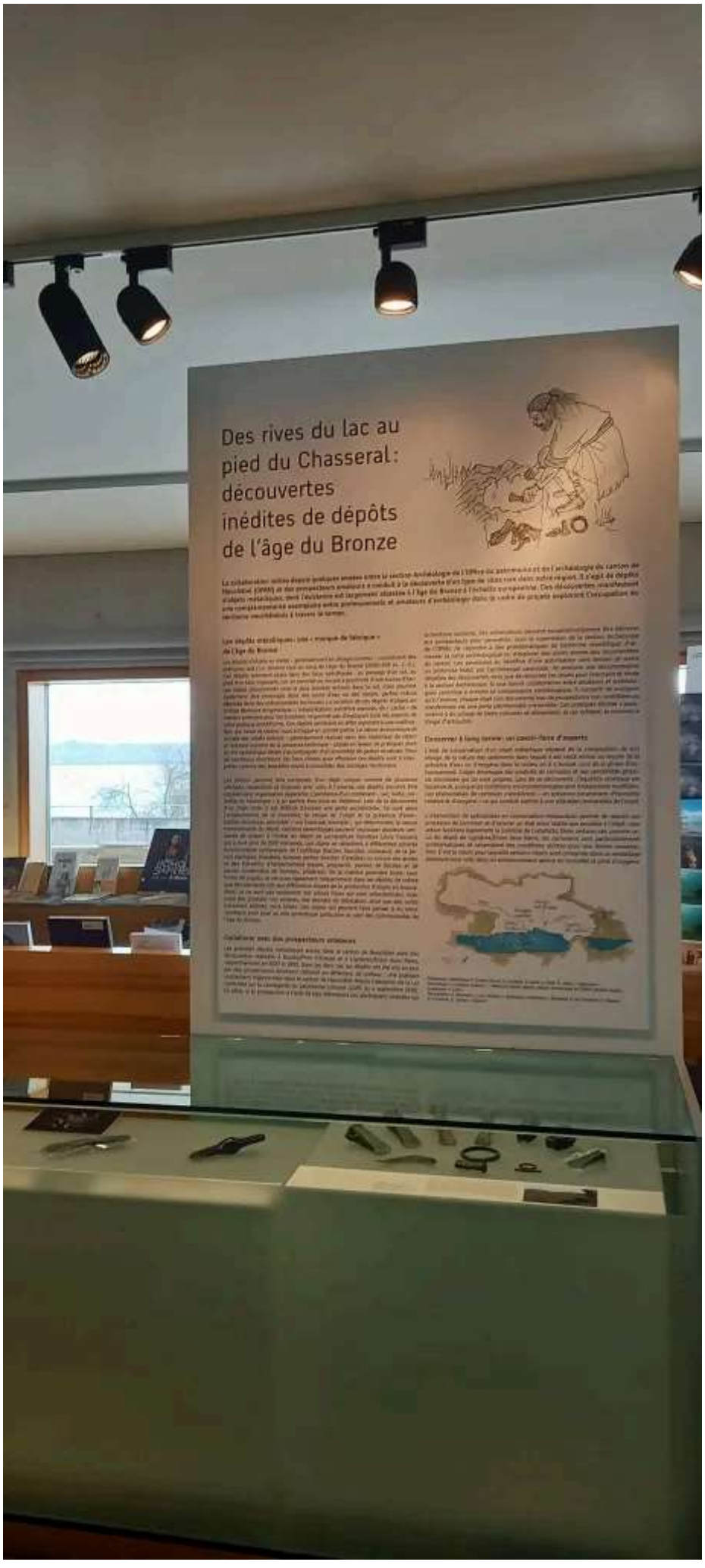
Dole Ville, France — Max K.

This API recognizes and reads a text embedded in pictures or photos. Image to Text API uses a neural net (LSTM) based OCR engine which is focused on line recognition, but also supports recognizing the character patterns. It supports both handwriting and printed materials as well as street maps.

APILayer is an API marketplace where also your API can reach a broader audiences, but first you need an API-key for free:

https://api-ninjas.com/api/imagetotext

First we need a picture to analyze, it was a photo for which I hadn't the time to read the content:


Des rives du lac au pied du Chasseral : découvertes inédites de dépôts de l'âge du Bronze

We use *WinHttp.WinHttpRequest*, *JSONObjects* and *TGraphics* library with loading and testing the REST-client. Also we pass the API-key as a request-header, so get a key first at: https://apilayer.com/marketplace

Then you must upload your image and put the link in a constant for passing at the API:

```
Const URLIMAGEPATH3 = 'https://breitschtv.wordpress.com/wp-content/uploads/2024
```

The data represents is JSON data with all the text extracted and even the language of the text to scan is auto detected. Before we dive into code this is the main part of the script:

```
function Image_to_text_API2(AURL, url_imgpath, aApikey: string): string;
var httpq: THttpConnectionWinInet; rets: TStringStream;
heads: TStrings; iht: IHttpConnection;
//losthost:THTTPConnectionLostEvent;
begin
  httpq:= THttpConnectionWinInet.Create(true);
  rets:= TStringStream.create('');
  heads:= TStringlist.create;
  try
    heads.add('apikey='+aAPIkey);
    iht:= httpq.setHeaders(heads);
    httpq.Get(Format(AURL,[url_imgpath]), rets);
    if httpq.getresponsecode=200 Then result:= rets.datastring
    else result:='Failed:'+ itoa(Httpq.getresponsecode)+Httpq.GetResponseHeader
  except
    writeln('EWI_HTTP: '+ExceptiontoString(exceptiontype,exceptionparam));
  finally httpq:= Nil;
    heads.Free;
    rets.Free;
  end;
end; //}
```

When you first call the API all the JSON encodings like \u0027 and \n or d\u00e9tecteur results (A JSON string must be double-quoted), so you need a stringify or parseJsonValue function to correct or escape **d\u00e9tecteur to détecteur**:

Or can you guess what's this is: Il s'agit de d\u00e9p\u00f4ts\nd'objets m\u00e9talliques

Answer: *Il s'agit de dépôts*
d'objets métalliques, dont l'existence est largement attestée à l'âge du Bronze.

> backstr:= parseJsonvalue(Image_to_text_API2(URL_APILAY,
> URLIMAGEPATH3, 'dy5L70eQx72794XBZ8sewEgYTZR85_ **your APIKey** '));
>
> @main call

The API itself is simple and straightforward:

```
URL_APILAY = 'https://api.apilayer.com/image_to_text/url?url=%s';
```

At a last line we fix the /n (depends on your Operating System or Language) to get a clear carriage and line-feed:

```
var backstr, validtext: string;

backstr:= parseJsonvalue(Image_to_text_API2(URL_APILAY, URLIMAGEPATH3, 'YTZR85_
validtext:= StringReplace(backstr, '\n',CR+LF,[rfReplaceAll]);
writeln(validtext);
```

If your programming language is not listed in the Code Example above, you can still make API calls by using a HTTP request library written in your programming language and following the above documentation.

This is an example in Python (Python4Delphi):

```
procedure PyCode(imgpath: string);
begin
  with TPythonEngine.Create(Nil) do begin
    pythonhome:= 'C:\Users\breitsch\AppData\Local\Programs\Python\Python37-64\'
    try
      loadDLL;
      ExecString('import requests');
      ExecStr('url= "https://api.apilayer.com/image_to_text/url?url='+imgpath+'
      ExecStr('payload = {}');
      ExecStr('headers= {"apikey": "dy5L70eQx72794XBZ8sewEgYTZR85_yourAPIKey"}'
      Println(EvalStr('requests.request("GET",url,headers=headers,data=payload)
    except
      raiseError;
    finally
      free;
    end;
  end;
end;
```

And in Real Python:

```
import requests api_url = 'https://api.api-ninjas.com/v1/imagetotext'
image_file_descriptor = open('YOUR_IMAGE.jpeg', 'rb')
files = {'image': image_file_descriptor}
r = requests.post(api_url, files=files)
print(r.json())
```

Image2Text or Image to Text live demo is providing an API service on its APILayer publication platform. Live Demo feature allows you to test the API within your browser; no need to install or code anything. You can modify all the parameters as you like and interact with the API from many languages.

The result can be (99.97%):

```
{"lang":"fr","all_text":"TSAPIENS
Des rives du lac au
pied du Chasseral:
découvertes
inédites de dépôts
```

```
de l'âge du Bronze
10
La collaboration initiée depuis quelques années entre la section Archéologie de
Neuchâtel (OPAN) et des prospecteurs amateurs a conduit à la découverte d'un ty
d'objets métalliques, dont l'existence est largement attestée à l'âge du Bronze
une complémentarité exemplaire entre professionnels et amateurs d'archéologie d
territoire neuchitelois à travers le temps.
```

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Written by Max Kleiner

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Max Kleiner's professional environment is in the areas of OOP, UML and coding - among other things as a trainer, developer and consultant.

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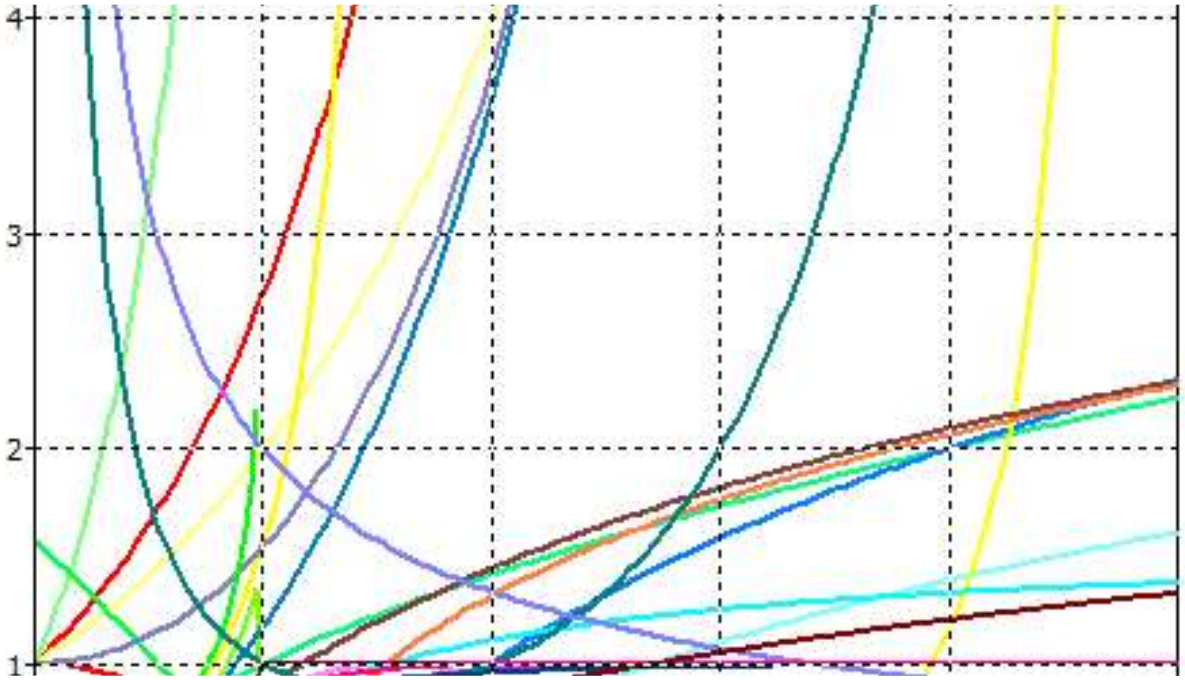

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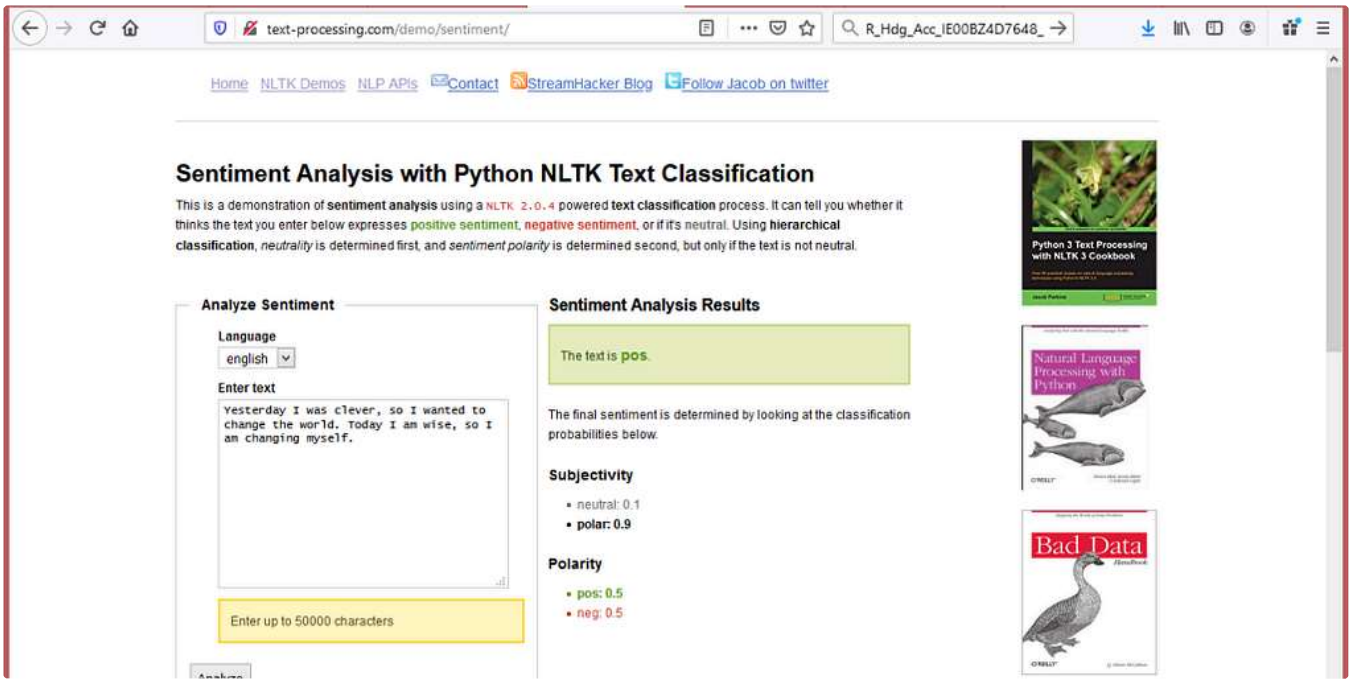

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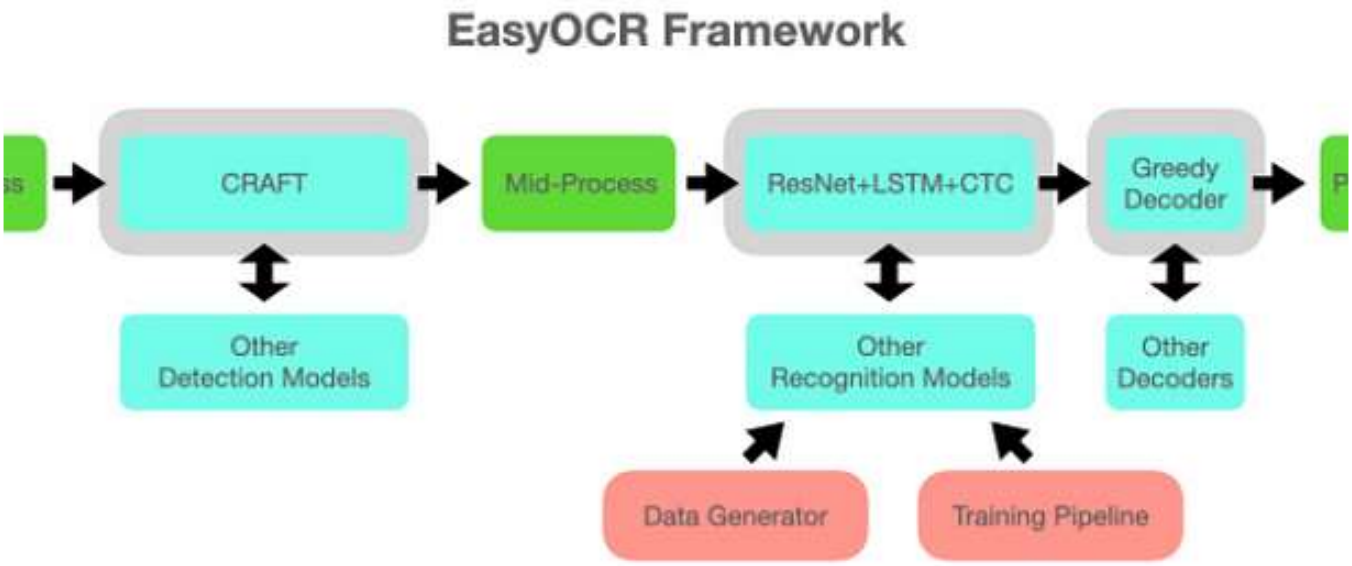

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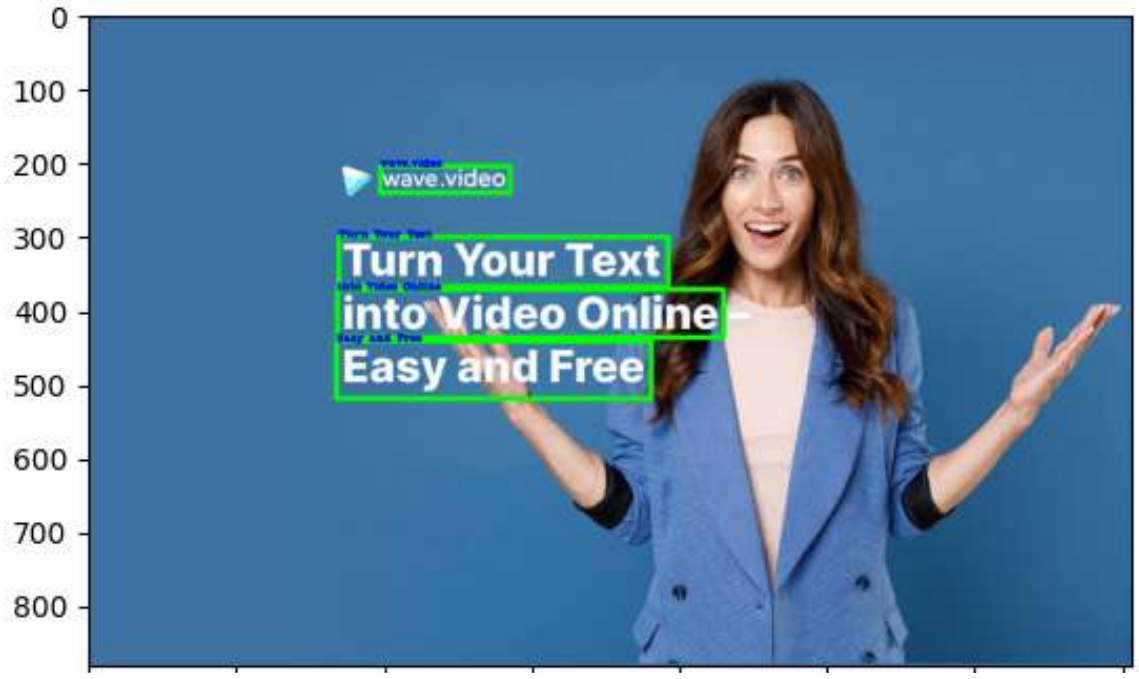

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