

ITIS-6177: Final Project

Computer Vision

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Computer Vision:

Azure's Computer Vision service gives you access to advanced algorithms that process images and return information based on the visual features you're interested in.

Optical Character Recognition:

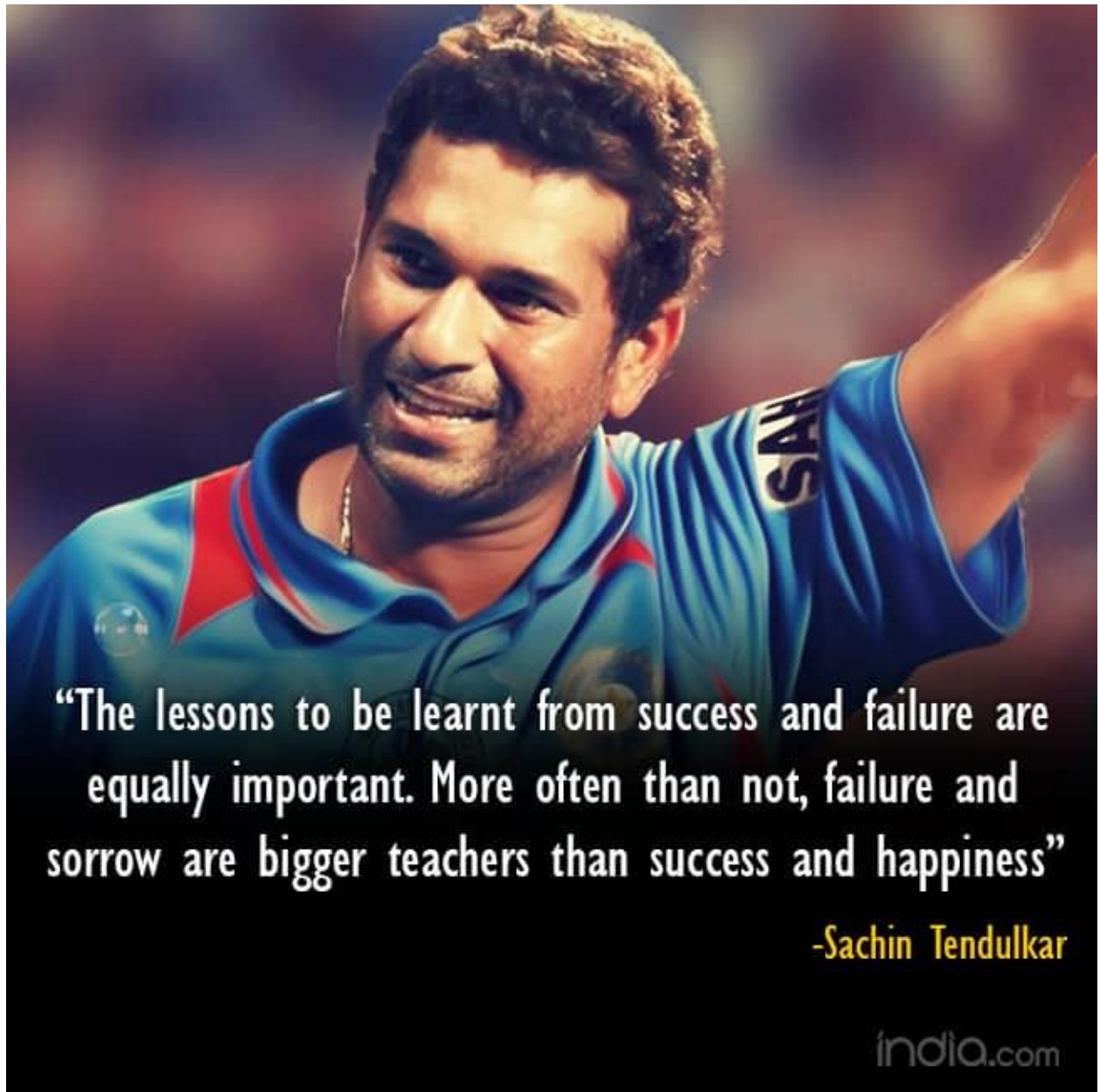
Text is extracted from photos using OCR (Optical Character Recognition) services. The new Read API allows you to extract printed and handwritten text from photos and documents. It works with text on different surfaces and backgrounds using deep learning-based models. Examples include business documents, invoices, receipts, posters, business cards, letters, and whiteboards. The OCR API can extract text printed in different languages.

How to run:

1. Select an image from the internet and copy its URL.
2. Open Postman
3. Create a new request
4. Select "POST" as the request type
5. Input the endpoint URL
6. In the "body" section below, add a new key as "url" and value as the image URL copied in the first step.
7. Click "Send" button to submit the request.
8. After few seconds, we receive a response and is displayed in the response section below.

Example:

Image used:



“The lessons to be learnt from success and failure are equally important. More often than not, failure and sorrow are bigger teachers than success and happiness”

-Sachin Tendulkar

india.com

Postman screenshot for OCR:

The screenshot shows a Postman interface for a POST request to `http://134.122.127.3:3000/ocr`. The request is configured with the following parameters:

- Method:** POST
- URL:** `http://134.122.127.3:3000/ocr`
- Body Type:** x-www-form-urlencoded
- Body Content:** `url=http://st1.photogallery.ind.sh/wp-content/uploads/indiacom...`

The response status is **200 OK** with a time of **959 ms** and a size of **1.89 KB**. The response body is displayed in the **Preview** tab, showing a JSON object with OCR results:

```
{
  "language": "en",
  "textAngle": 0,
  "orientation": "Up",
  "regions": [
    {
      "boundingBox": "25,406,607,226",
      "lines": [
        {
          "boundingBox": "30,406,591,26",
          "words": [
            {
              "boundingBox": "30,407,47,25",
              "text": "The"
            },
            {
              "boundingBox": "90,407,70,25",
              "text": "lessons"
            },
            {
              "boundingBox": "172,412,21,20",
              "text": "to"
            },
            {
              "boundingBox": "207,407,23,25",
              "text": "be"
            },
            {
              "boundingBox": "243,407,60,25",
              "text": "I learnt"
            },
            {
              "boundingBox": "316,407,47,25",
              "text": "from"
            },
            {
              "boundingBox": "377,416,71,16",
              "text": "success"
            },
            {
              "boundingBox": "462,407,36,25",
              "text": "and"
            },
            {
              "boundingBox": "511,406,65,26",
              "text": "failure"
            },
            {
              "boundingBox": "590,416,31,16",
              "text": "are"
            }
          ]
        },
        {
          "boundingBox": "49,449,553,36",
          "words": [
            {
              "boundingBox": "49,449,73,36",
              "text": "equally"
            },
            {
              "boundingBox": "135,450,108,35",
              "text": "important"
            },
            {
              "boundingBox": "254,449,48,27",
              "text": "More"
            },
            {
              "boundingBox": "316,449,50,26",
              "text": "often"
            },
            {
              "boundingBox": "379,449,46,26",
              "text": "than"
            },
            {
              "boundingBox": "439,455,39,25",
              "text": "not"
            },
            {
              "boundingBox": "487,449,65,26",
              "text": "failure"
            },
            {
              "boundingBox": "566,449,36,26",
              "text": "and"
            }
          ]
        },
        {
          "boundingBox": "25,493,605,35",
          "words": [
            {
              "boundingBox": "25,503,68,16",
              "text": "sorrow"
            },
            {
              "boundingBox": "106,503,31,16",
              "text": "are"
            },
            {
              "boundingBox": "151,494,64,34",
              "text": "bigger"
            },
            {
              "boundingBox": "227,493,85,26",
              "text": "teachers"
            },
            {
              "boundingBox": "324,493,46,26",
              "text": "than"
            },
            {
              "boundingBox": "384,503,71,16",
              "text": "success"
            },
            {
              "boundingBox": "469,494,36,25",
              "text": "and"
            },
            {
              "boundingBox": "519,493,111,35",
              "text": "happiness"
            },
            {
              "boundingBox": "480,547,152,21",
              "words": [
                {
                  "boundingBox": "480,547,59,21",
                  "text": "Sachin"
                },
                {
                  "boundingBox": "550,547,82,21",
                  "text": "Tendulkar"
                }
              ]
            },
            {
              "boundingBox": "519,611,108,21",
              "words": [
                {
                  "boundingBox": "519,611,108,21",
                  "text": "indio.com"
                }
              ]
            }
          ]
        }
      ]
    }
  ]
}
```

Image Analysis:

Image analysis services are used to extract many visual elements from a photo, such as objects, faces, adult materials, and auto-generated text descriptions.

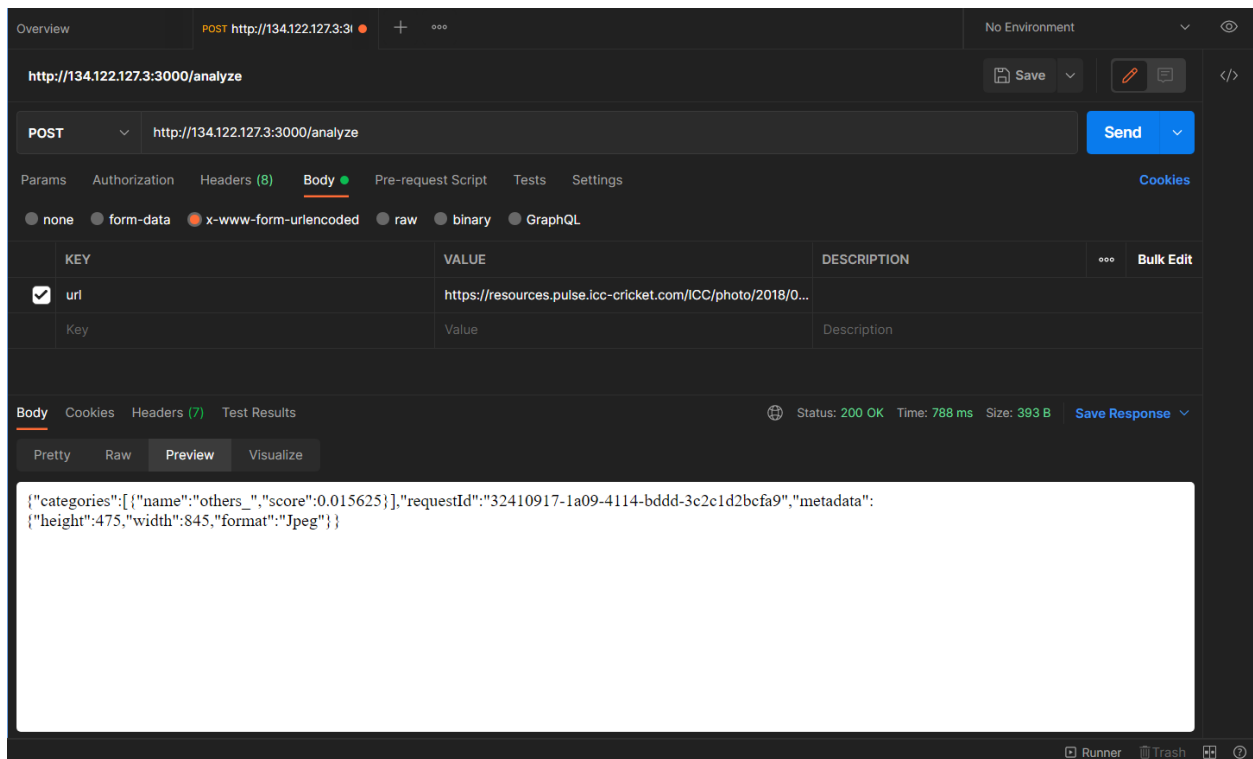
How to run:

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7. Click "Send" button to submit the request.
8. After few seconds, we receive a response and is displayed in the response section below.

Image Used:



Postman Screenshot:



References:

<https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/>