OCR with Python: Extracting Text from PDFs

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Optical Character Recognition (OCR) is a technology that enables computers to extract text from images or scanned documents. This is a valuable capability as it allows us to process and analyze large volumes of data without having to manually transcribe the content. In this article, we will explore how to perform OCR on PDF files using Python.

Python Libraries for PDF OCR:
To perform OCR on PDF files, we will utilize the following Python libraries:

pytesseract:
pytesseract is a Python wrapper for the powerful Tesseract OCR engine. It supports many languages and can recognize various text formats, including alphanumeric characters and symbols.

pdf2image:
pdf2image is a Python library that converts python pdf ocr files into a sequence of images. This library will convert each page of the PDF file into an image, which can then be processed by pytesseract.

pip install pytesseract pdf2image

After the installation is complete, we can proceed with extracting text from PDF files.

Step 1: Converting PDF to Images:
Before we can perform OCR on a PDF file, we need to convert each page of the PDF into

```
def convert_pdf_to_images(pdf_path):
pages = convert_from_path(pdf_path)
for i, page in enumerate(pages):
page.save(f"page_{i}.jpg", "JPEG")
```

In the above code snippet, the `convert_from_path` function is used to convert the PDF file into a list of PIL (Python Imaging Library) image objects. Each image corresponds to a single page of the PDF. We then save each image to disk using the `save` method.

Step 2: Performing OCR on Images:
Once we have converted the PDF pages into images of rest api s3, we can apply OCR using the pytesseract library. Before running the OCR, make sure you have Tesseract installed on your system. Instructions for installing Tesseract can be found on the Tesseract GitHub page (https://github.com/tesseract-ocr/tesseract).

```
import pytesseract
from PIL import Image
def perform_ocr_on_images():
for i in range(num_pages):
image_path = f"page_{i}.jpg"
image = Image.open(image_path)
text = pytesseract.image_to_string(image)
print(f"Page {i + 1}:\n{text}\n")
```

In the above code snippet, we loop through each image file and open it using the `Image.open()` method from the PIL library. We then pass the image object to `pytesseract.image_to_string()` to extract the text. The resulting text is printed for each page. python ocr pdf for further processing or analysis. We can achieve this by modifying our previous code as follows:

```
import pytesseract

from PIL import Image

def perform_ocr_on_images():

combined_text = “”

for i in range(num_pages):

image_path = f”page_{i}.jpg”

image = Image.open(image_path)

text = pytesseract.image_to_string(image)

combined_text += text + “\n”

with open(“extracted_text.txt”, “w”) as f:

f.write(combined_text)

print(“Extraction complete. Text saved to ‘extracted_text.txt’”)
```

In the above code snippet, python ocr pdf we initialize an empty string called `combined_text`, which will store the text extracted from each page. We concatenate the text from each page to the `combined_text` variable. Finally, we write the `combined_text` to a text file called `extracted_text.txt`.

In this article, we explored how to perform OCR on PDF files using Python. We used the pytesseract library to extract text from images, generated from PDF pages using the pdf2image library. With the ability to extract text from PDFs, we can now automate text processing tasks and efficiently analyze large volumes of data.

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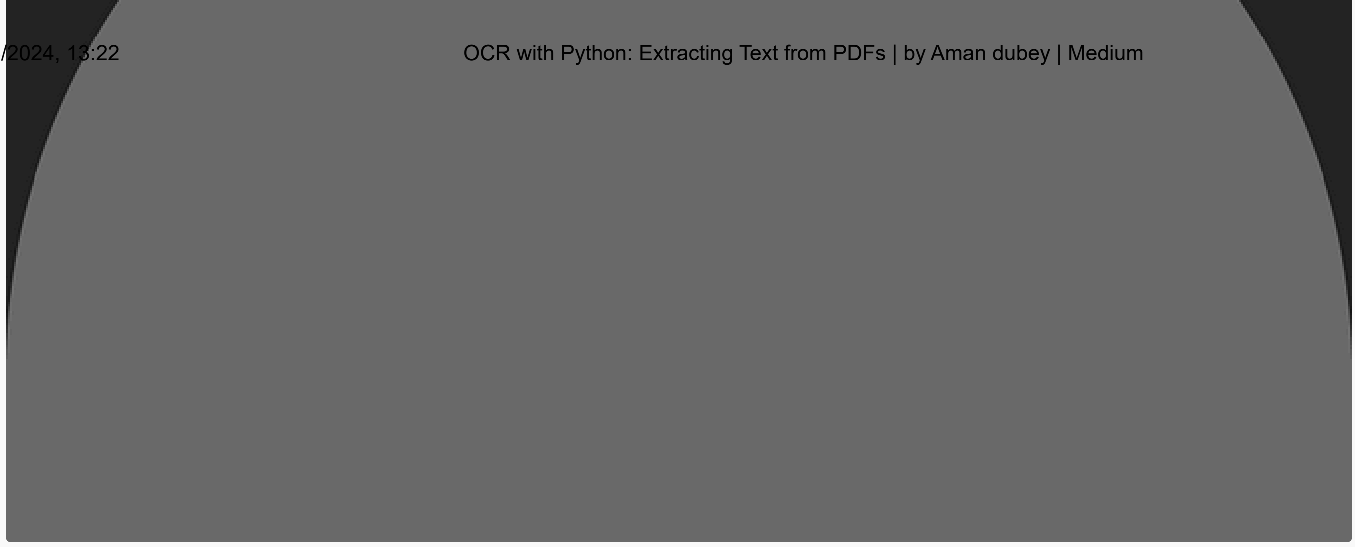

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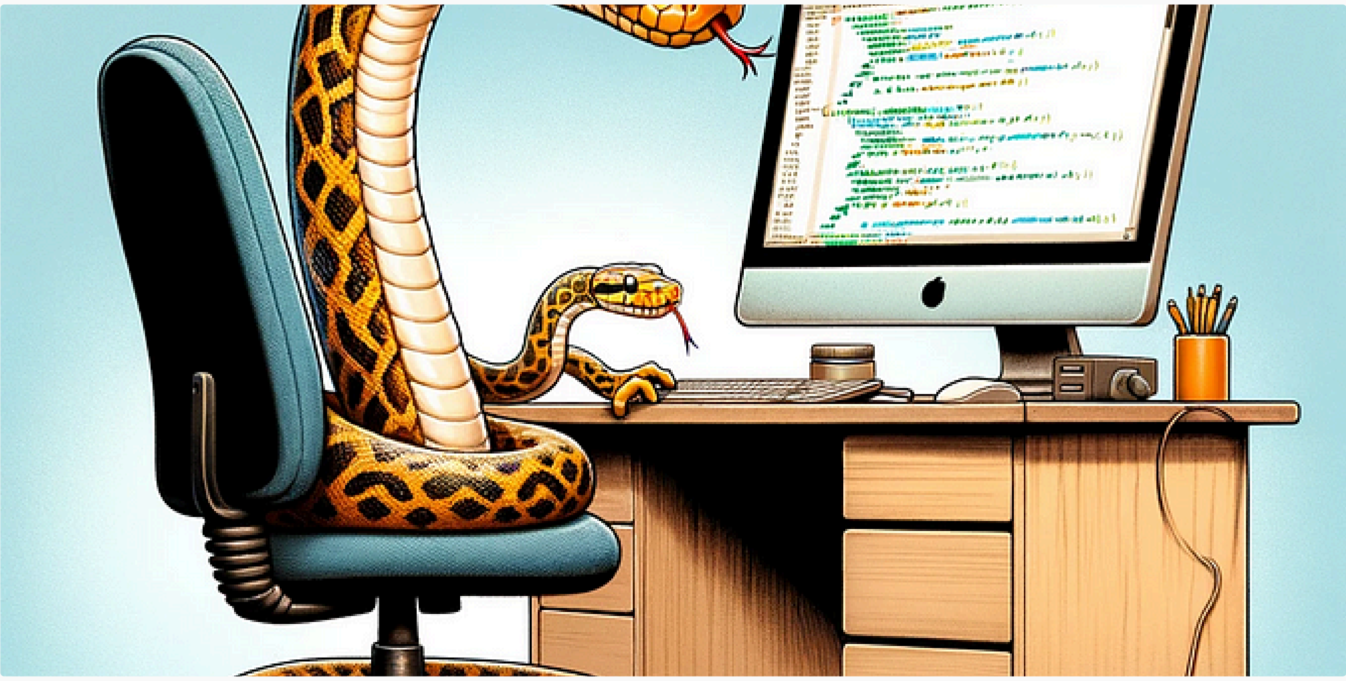

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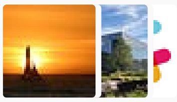

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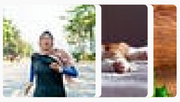

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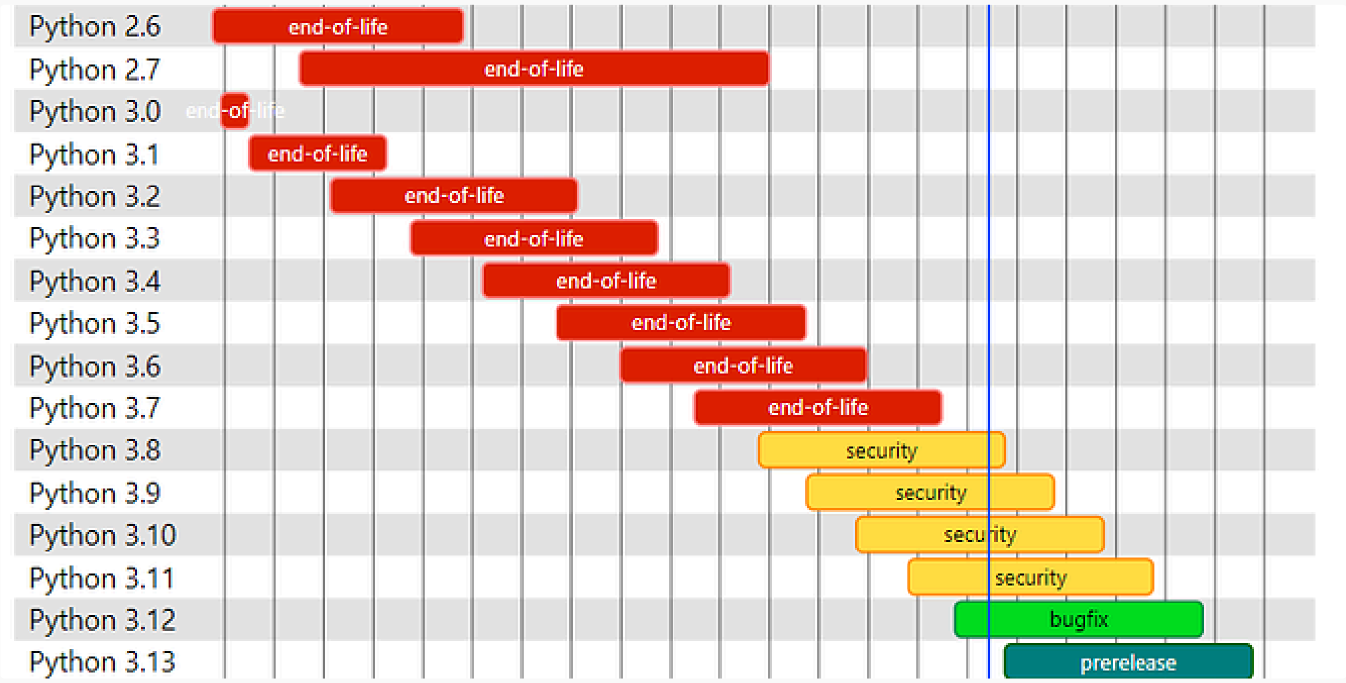

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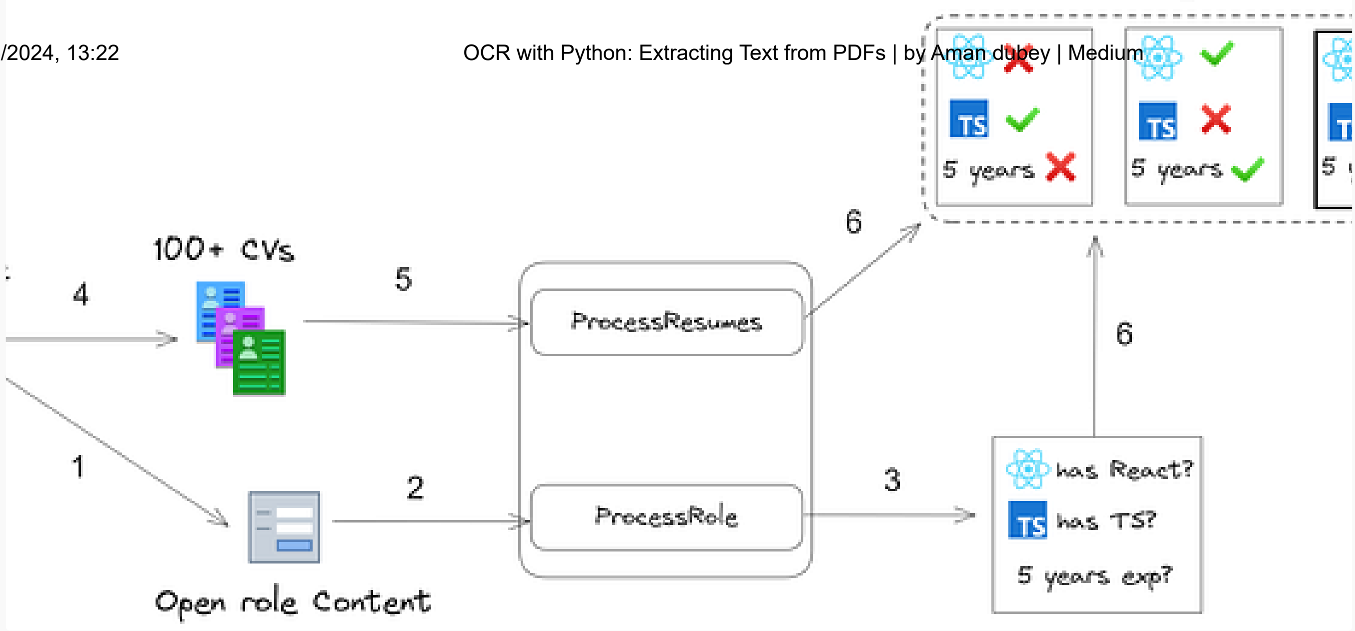

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