Optical character recognition (OCR) is a technology that recognizes text in images, such as scanned documents and photos. Perhaps you’ve taken a photo of a text just because you didn’t want to take notes or because taking a photo is faster than typing it. Fortunately, thanks to smartphones today, we can apply OCR so that we can copy the picture of text we took before without having to retype it.

**What Is Python Optical Character Recognition (OCR)?**

Python OCR is a technology that recognizes and pulls out text in images like scanned documents and photos using Python. It can be completed using the open-source OCR engine Tesseract.

**Why Learn Optical Character Recognition (OCR)?**

Extracting text from images and documents manually can be very tedious and time-consuming. Fortunately, OCR (Optical Character Recognition) can automate this process, allowing you to convert those images into editable and searchable text files.

The techniques you are about to learn can be applied in many applications:

* **Turning physical documents digital**: Convert scanned documents, PDFs, or photos of text into editable and searchable files.
* **Automating data entry**: Extract information from forms, invoices, receipts, and other documents to automatically populate databases or spreadsheets.
* **Improving accessibility**: Create digital text versions of books, menus, or signs for people with visual impairments. Text-to-speech tools can then be used to read the text aloud.
* **Self-driving cars**: Recognize traffic signs and license plates for safe navigation.

The tutorial will focus on the Tesseract OCR engine and its Python API - PyTesseract. Before we start writing code, let’s briefly review some of the popular libraries dedicated to OCR.

**Top Open-Source OCR Libraries in Python**

Since OCR is a popular ongoing problem, many open-source libraries try to solve it. In this section, we will cover the ones that gained the most popularity due to their high performance and accuracy.

**Tesseract**

Tesseract OCR is an open-source optical character recognition engine that is the most popular among developers. Like other tools in this list, Tesseract can take images of text and convert them into editable text.

**Advantages**

* Widely used and mature library with a large community
* Supports over 100 languages
* Free and open-source

**Disadvantages**

* Accuracy can be lower compared to some deep learning-based solutions
* Limited configuration options

**Easy OCR**

EasyOCR is a Python library designed for effortless Optical Character Recognition (OCR). It lives up to its name by offering a user-friendly approach to text extraction from images.

**Advantages**

* User-friendly and easy to set up
* High accuracy with deep learning models
* Supports various languages out-of-the-box

**Disadvantages**

* Reliant on pre-trained models, which can be large in size
* Might be slower than Tesseract for simpler tasks