

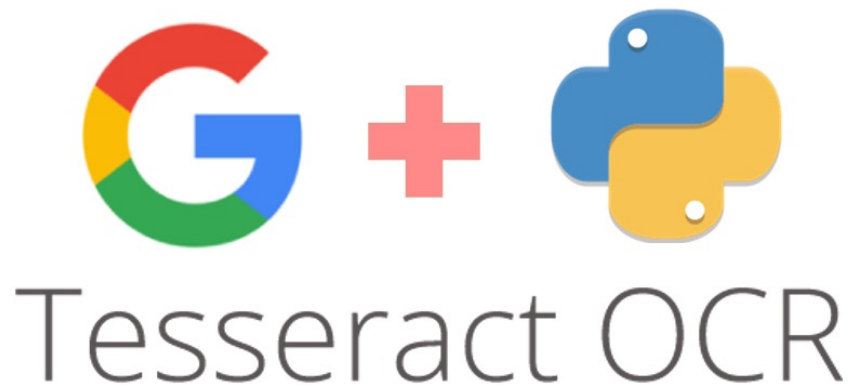
Tesseract OCR



Tesseract OCR

다양한 운영 체제를 위한 광학 문자 인식 엔진
Apache License, 버전 2.0에 따라 배포되는 무료 소프트웨어
2006년부터 Google에서 개발을 후원

Tesseract OCR



Environment

Windows 11
Python 3.9.x
OpenCV 2

Package

```
import matplotlib.pyplot  
import pytesseract  
import imutils  
import cv2  
import re  
import requests  
import numpy
```

Tesseract OCR



C.H. Robinson International, Inc.

Correspondence Address
10301 NW 108th Ave, Door 109
MIAMI, FL 33178
United States
Tel: +1 (954) 342-3630 Fax: +1 (954) 435-5663

FMCI License # 3282
CHB License # 11502
Date: 15-Nov-22
Page 1 of 2

Delivery Order

The Merchandise described below will be delivered as follows:

To: NGL Transportation LLC Attn: Yanet Zaballa Telephone: +1 (623) 930-0932 Fax: +1 (623) 937-2576 From: United States		5090 W Camelback Rd Glendale, AZ 85301-7611 United States	
PICK-UP / LOADING Port of Long Beach Port of Long Beach Long Beach, CA 90802 United States Contact: PORT OF LONG BEACH Telephone: 5622837000 Fax: 5622837000 ETA: 09-Nov-22, 22:03		REFERENCES CHR #: 413365292 Carrier: Cosco Shipping Lines (North America) Inc (COSU) Vessel/Voyage: COSCO NETHERLANDS/053E Master B/L #: COSU6881997647 House B/L #: 413365292SZN	
DELIVERY TO Kaspien, Inc. 7345 Sycamore Canyon Blvd STE 1 Riverside, CA 92508 United States Contact: N/A Telephone: Fax: Scheduling: Driver Work:			
Shipment Details			
Container - Seal Marks and Numbers CBHU8912418 - SYA1218159	Type Packages 40HC 1 40HC	Last Free Day PU # Appt Date Description of Packages and Goods 415 CTN	Chassis Hot Gross Weight Volume 15,293.65 LB 2,474.5 CBM
Charges Send Invoices To: CHRW INTL Dray Payables PO BOX 5550 CORALVILLE, IA 52241 LoadDocs@CHRobinson.com			
Remark To ensure prompt payment, an invoice must accompany all billing with the Carrier Name and CHR #. Thank you, Yanet Zaballa Email: Yanet.Zaballa@ch Robinson.com			

같은 칸 안에 있는 텍스트를 하나로 묶을 필요성이 있음

Tesseract OCR

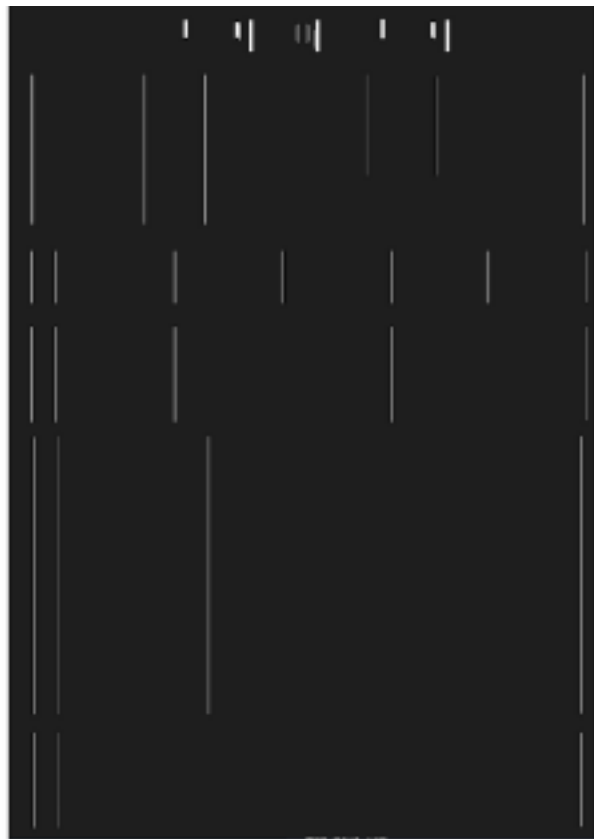
```
### selecting min size as 15 pixels  
line_min_width = 15  
kernal_h = np.ones((1, line_min_width), np.uint8)  
kernal_v = np.ones((line_min_width, 1), np.uint8)
```

세로/가로 커널 생성

```
# Horizontal Kernel, Vertical Kernel  
img_bin_h = cv2.morphologyEx(img_bin, cv2.MORPH_OPEN, kernal_h)  
img_bin_v = cv2.morphologyEx(img_bin, cv2.MORPH_OPEN, kernal_v)  
  
# MIX Kernel  
img_bin_final = img_bin_h | img_bin_v
```

모핑을 진행하여 선을 추출

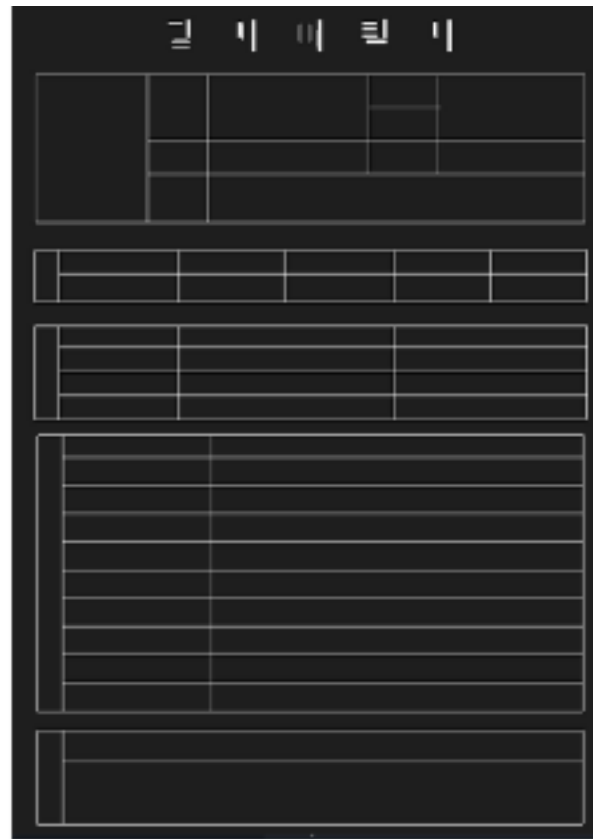
Tesseract OCR



세로선



가로선



합병

Tesseract OCR

Expeditors
 AHN 79 003 337 282
 CUSTOMS BROKERS • DATA AGENTS • FREIGHT FORWARDERS
 TAC 2284 • MOCC

Expeditors Intl of WA Inc
 3930 East Watkins
 Suite #100
 Phoenix AZ 85034
 602-437-8877

DELIVERY ORDER
 This is NOT a Bill of Lading

REFERENCE 7110327985 ENTRY NO. 5055520-5 DATE 08-Nov-2022

DELIVER TO: Hanchett Entry Systems Inc. GROUP TRANSPORT 9142 Norwalk Blvd. 9142 Norwalk Blvd. Santa Fe SPRINGS CA 90670		Pick Up From YUSEN TERMINAL INC (LA) BERTH 701 NEW DOCK ST SAN PEDRO CA 90731-7535 ONE TRITON / 13-Nov-2022
BILL TO: Expeditors Intl of WA Inc 3930 East Watkins Suite #100 Phoenix AZ 85034 United States	MBL HOMUNBOZ38152600	HBL 621084151
DELIVERING CARRIER NGL Transportation LLC	<input checked="" type="checkbox"/> Prepaid <input type="checkbox"/> Collect <input type="checkbox"/> 3rd Party (See Bill To)	CHARGES

PIECES	DESCRIPTION	VOLUME/WEIGHT
40 PKG	HARDWARE, NOS TOTAL # OF CO'S: 1 Container(s) Seal Number(s) Quantity size KOCU4093034 212310700 1 40H Pickup after: 15:03 13-Nov-2022 Deliver after: 15:03 13-Nov-2022 References: DO # D3PHXB246462, CR # 231-60150956749, P/O # P35220831, INV # 2022XL217	1765.735CF / 23369LB

NOTE: Delivering Carrier shall be solely responsible to pay and will reimburse Expeditors for (by way of offset or otherwise, which is expressly authorized herein) any and all accessorial charges which are incurred with respect to the movement and storage of the shipment(s) tendered hereunder which are not otherwise pre-approved in writing by Expeditors.

Shipper, Expeditors, Delivering Carrier, and any other subcontractor motor carriers expressly waive all rights and remedies they may have under 49 U.S.C. Subtitle IV, Part B (excluding §§ 13706, 14101, and 14103) to the full extent permitted by 49 U.S.C. § 14101(b)(1), each as amended from time to time. The delivery order is and for all purposes shall be deemed to be a written contract with respect to this waiver PROVIDED, however, that any term(s) contained within a bill of lading issued by Expeditors shall govern over any conflicting term(s) contained herein. Unless Shipper has made a special declaration of value and has paid the additional charge(s) in connection therewith, the liability of Expeditors for loss, damage, delay, or any other cause whatsoever shall be limited to U.S. \$0.50 per pound, maximum \$50 per lot. Unless a separate certificate has been issued and the applicable premium paid, goods are **NOT INSURED**. Additional restrictions are provided in the Terms and Conditions of Service of Expeditors which are incorporated herein by reference. These terms and conditions are also available at www.expeditors.com/forms-downloads. All services provided are subject to these terms and conditions.

Received in Good Order BY: <input checked="" type="checkbox"/> (Signature) (PRINT NAME)	DATE RECEIVED: TIME RECEIVED:
--	----------------------------------

THIS CARRIAGE IS SUBJECT TO THE TERMS AND CONDITIONS OF THE DELIVERING CARRIER NAMED ABOVE.

DELIVER TO: Hanchett Entry Systems Inc. GROUP TRANSPORT 9142 Norwalk Blvd. 9142 Norwalk Blvd. Santa Fe SPRINGS CA 90670	Pick Up From YUSEN TERMINAL INC (LA) BERTH 701 NEW DOCK ST SAN PEDRO CA 90731-7535 ONE TRITON / 13-Nov-2022	BILL TO: Expeditors Intl of WA Inc 3930 East Watkins Suite #100 Phoenix AZ 85034 United States
MBL HOMUNBOZ38152600	HBL 621084151	Prepaid X
O/H No.	3rd Party (See Bill To:)	Declared Value for Carriage \$
Collect	(Shipper's Signature)	DATE RECEIVED:
X	(Signature) (PRINT NAME)	(Signature) (PRINT NAME)

표의 칸을 인식 후 OCR 진행