API Documentation

jaided.ai/easyocr/documentation

Reader class

Base class for EasyOCR

Parameters

- **lang_list** (list) - list of language code you want to recognize, for example ['ch_sim','en']. List of supported language code is here.
- **gpu** (bool, string, default = True) - enable GPU
- **model_storage_directory** (string, default = None) - Path to directory for model data. If not specified, models will be read from a directory as defined by the environment variable EASYOCR_MODULE_PATH (preferred), MODULE_PATH (if defined), or ~/.EasyOCR/.
- **download_enabled** (bool, default = True) - enable download if EasyOCR is not able locate model files
- **user_network_directory** (bool, default = None) - Path to user-defined recognition network. If not specified, models will be read from MODULE_PATH + '/user_network' (~/.EasyOCR/user_network).
- **recog_network** (string, default = 'standard') - Instead of standard mode, you can choose your own recognition network --- Tutorial to be written about this.
- **detector** (bool, default = True) - load detection model into memory
- **recognizer** (bool, default = True) - load recognition model into memory

Attribute

lang_char - Show all available characters in current model

<u>readtext</u> method

Main method for Reader object. There are 4 groups of parameter: General, Contrast, Text Detection and Bounding Box Merging.

Parameters 1: General

- **image** (string, numpy array, byte) - Input image
- **decoder** (string, default = 'greedy') - options are 'greedy', 'beamsearch' and 'wordbeamsearch'.
- **beamWidth** (int, default = 5) - How many beam to keep when decoder = 'beamsearch' or 'wordbeamsearch'
- **batch_size** (int, default = 1) - batch_size>1 will make EasyOCR faster but use more memory
- **workers** (int, default = 0) - Number thread used in of dataloader
- **allowlist** (string) - Force EasyOCR to recognize only subset of characters. Useful for specific problem (E.g. license plate, etc.)
- **blocklist** (string) - Block subset of character. This argument will be ignored if allowlist is given.
- **detail** (int, default = 1) - Set this to 0 for simple output
- **paragraph** (bool, default = False) - Combine result into paragraph
- **min_size** (int, default = 10) - Filter text box smaller than minimum value in pixel
- **rotation_info** (list, default = None) - Allow EasyOCR to rotate each text box and return the one with the best confident score. Eligible values are 90, 180 and 270. For example, try [90, 180 ,270] for all possible text orientations.

Parameters 2: Contrast

- **contrast_ths** (float, default = 0.1) - Text box with contrast lower than this value will be passed into model 2 times. First is with original image and second with contrast adjusted to 'adjust_contrast' value. The one with more confident level will be returned as a result.
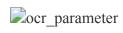- **adjust_contrast** (float, default = 0.5) - target contrast level for low contrast text box

Parameters 3: Text Detection (from CRAFT)

- **text_threshold** (float, default = 0.7) - Text confidence threshold
- **low_text** (float, default = 0.4) - Text low-bound score
- **link_threshold** (float, default = 0.4) - Link confidence threshold
- **canvas_size** (int, default = 2560) - Maximum image size. Image bigger than this value will be resized down.
- **mag_ratio** (float, default = 1) - Image magnification ratio

Parameters 4: Bounding Box Merging

This set of parameter controls when adjacent bounding boxes merge with each other. Every parameters except 'slope_ths' is in the unit of box height.

- **slope_ths** (float, default = 0.1) - Maximum slope (delta y/delta x) to considered merging. Low value means tiled boxes will not be merged.
- **ycenter_ths** (float, default = 0.5) - Maximum shift in y direction. Boxes with different level should not be merged.
- **height_ths** (float, default = 0.5) - Maximum different in box height. Boxes with very different text size should not be merged.
- **width_ths** (float, default = 0.5) - Maximum horizontal distance to merge boxes.
- **add_margin** (float, default = 0.1) - Extend bounding boxes in all direction by certain value. This is important for language with complex script (E.g. Thai).

Return list of results

detect method

Method for detecting text boxes.

Parameters

- **image** (string, numpy array, byte) - Input image
- **min_size** (int, default = 10) - Filter text box smaller than minimum value in pixel
- **text_threshold** (float, default = 0.7) - Text confidence threshold
- **low_text** (float, default = 0.4) - Text low-bound score
- **link_threshold** (float, default = 0.4) - Link confidence threshold
- **canvas_size** (int, default = 2560) - Maximum image size. Image bigger than this value will be resized down.
- **mag_ratio** (float, default = 1) - Image magnification ratio
- **slope_ths** (float, default = 0.1) - Maximum slope (delta y/delta x) to considered merging. Low value means tiled boxes will not be merged.
- **ycenter_ths** (float, default = 0.5) - Maximum shift in y direction. Boxes with different level should not be merged.
- **height_ths** (float, default = 0.5) - Maximum different in box height. Boxes with very different text size should not be merged.
- **width_ths** (float, default = 0.5) - Maximum horizontal distance to merge boxes.
- **add_margin** (float, default = 0.1) - Extend bounding boxes in all direction by certain value. This is important for language with complex script (E.g. Thai).
- **optimal_num_chars** (int, default = None) - If specified, bounding boxes with estimated number of characters near this value are returned first.

Return horizontal_list, free_list - horizontal_list is a list of regtangular text boxes. The format is [x_min, x_max, y_min, y_max]. free_list is a list of free-form text boxes. The format is [[x1,y1],[x2,y2],[x3,y3],[x4,y4]].

<u>recognize</u> method

Method for recognizing characters from text boxes. If horizontal_list and free_list are not given. It will treat the whole image as one text box.

Parameters

- **image** (string, numpy array, byte) - Input image
- **horizontal_list** (list, default=None) - see format from output of detect method
- **free_list** (list, default=None) - see format from output of detect method
- **decoder** (string, default = 'greedy') - options are 'greedy', 'beamsearch' and 'wordbeamsearch'.
- **beamWidth** (int, default = 5) - How many beam to keep when decoder = 'beamsearch' or 'wordbeamsearch'
- **batch_size** (int, default = 1) - batch_size>1 will make EasyOCR faster but use more memory
- **workers** (int, default = 0) - Number thread used in of dataloader
- **allowlist** (string) - Force EasyOCR to recognize only subset of characters. Useful for specific problem (E.g. license plate, etc.)
- **blocklist** (string) - Block subset of character. This argument will be ignored if allowlist is given.
- **detail** (int, default = 1) - Set this to 0 for simple output
- **paragraph** (bool, default = False) - Combine result into paragraph
- **contrast_ths** (float, default = 0.1) - Text box with contrast lower than this value will be passed into model 2 times. First is with original image and second with contrast adjusted to 'adjust_contrast' value. The one with more confident level will be returned as a result.
- **adjust_contrast** (float, default = 0.5) - target contrast level for low contrast text box

Return list of results