**Objective:** built a class or function to let the user built a custom function to convert an image representation to another like follows:

[A (Parent image)] -> custom function (with data) -> [B (Child image)]

**Basic imports:** numpy, cv2, plotim

**Platforms:** Python

**Sketch:**

The basic step

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Functions to in block operations:

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| --- | --- | --- |
| [OPERATION](http://opencv-python-tutroals.readthedocs.org/en/latest/py_tutorials/py_imgproc/py_table_of_contents_imgproc/py_table_of_contents_imgproc.html) | TYPE | SAMPLE CODE OR FUNCTION |
| Core operations | split | b,g,r **=** cv2**.**split(img) |
| merge | img **=** cv2**.**merge((b,g,r)) |
| Color format | cvtColor(src, code, dst=None, dstCn=None)  *""" cvtColor(src, code[, dst[, dstCn]]) -> dst """* |
| [Smoothing](http://opencv-python-tutroals.readthedocs.org/en/latest/py_tutorials/py_imgproc/py_filtering/py_filtering.html) | Convolution | kernel = np.ones(ksize,np.float32)/25 filter2D(src, ddepth, kernel, dst=None, anchor=None, delta=None, borderType=None)  *""" filter2D(src, ddepth, kernel[, dst[, anchor[, delta[, borderType]]]]) -> dst """* |
| Averaging: blur | blur(src, ksize, dst=None, anchor=None, borderType=None)  *""" blur(src, ksize[, dst[, anchor[, borderType]]]) -> dst """* |
| Gaussian filtering | GaussianBlur(src, ksize, sigmaX, dst=None, sigmaY=None, borderType=None)  *""" GaussianBlur(src, ksize, sigmaX[, dst[, sigmaY[, borderType]]]) -> dst """* |
| Median filtering | medianBlur(src, ksize, dst=None)  *""" medianBlur(src, ksize[, dst]) -> dst """* |
| [bilateral](http://people.csail.mit.edu/sparis/bf_course/) filtering | bilateralFilter(src, d, sigmaColor, sigmaSpace, dst=None, borderType=None)  *""" bilateralFilter(src, d, sigmaColor, sigmaSpace[, dst[, borderType]]) -> dst """* |
| [Threshold](http://opencv-python-tutroals.readthedocs.org/en/latest/py_tutorials/py_imgproc/py_thresholding/py_thresholding.html#thresholding): Types:  cv2.THRESH\_BINARY  cv2.THRESH\_BINARY\_INV  cv2.THRESH\_TRUNC  cv2.THRESH\_TOZERO  cv2.THRESH\_TOZERO\_INV | Adaptive: Mean, Gauss | adaptiveThreshold(src, maxValue, adaptiveMethod, thresholdType, blockSize, C, dst=None)  *""" adaptiveThreshold(src, maxValue, adaptiveMethod, thresholdType, blockSize, C[, dst]) -> dst """* |
| Normal, Otsu | threshold(src, thresh, maxval, type, dst=None)  *""" threshold(src, thresh, maxval, type[, dst]) -> retval, dst """* |
| [Morphological Transformation](http://opencv-python-tutroals.readthedocs.org/en/latest/py_tutorials/py_imgproc/py_morphological_ops/py_morphological_ops.html) | Erosion |  |
| Dilation |  |
| Opening |  |
| Closing |  |
| Gradient |  |
| Top Hat |  |
| Black hat |  |