

JAVA DIP - WEIGHTED AVERAGE FILTER

http://www.tutorialspoint.com/java_dip/applying_weighted_average_filter.htm

Copyright © tutorialspoint.com

In weighted average filter, we gave more weight to the center value, due to which the contribution of center becomes more than the rest of the values. Due to weighted average filtering, we can control the blurring of image.

We use **OpenCV** function **filter2D** to apply weighted average filter to images. It can be found under **Imgproc** package. Its syntax is given below:

```
filter2D(src, dst, ddepth, kernel, anchor, delta, BORDER_DEFAULT );
```

The function arguments are described below:

Sr.No.	Arguments
1	src It is source image.
2	dst It is destination image.
3	ddepth It is the depth of dst. A negative value <i>such as</i> - 1 indicates that the depth is the same as the source.
4	kernel It is the kernel to be scanned through the image.
5	anchor It is the position of the anchor relative to its kernel. The location Point-1, - 1 indicates the center by default.
6	delta It is a value to be added to each pixel during the convolution. By default it is 0.
7	BORDER_DEFAULT We let this value by default.

Apart from the filter2D method, there are other methods provide by the Imgproc class. They are described briefly:


```

        if(i==1 && j==1) {
            m[k] = 10/18;
        }
        else{
            m[k] = m[k]/(18);
        }
    }
    kernel.put(i,j, m);
}
}
};

Imgproc.filter2D(source, destination, -1, kernel);
Highgui.imwrite("output.jpg", destination);

} catch (Exception e) {
    System.out.println("Error: " + e.getMessage());
}
}
}

```

Output

When you execute the given code, the following output is seen:

Original Image



This original image is convolved with the weighted average filter as given below:

Weighted Average Filter

```

1  1  1
1 10  1
1  1  1

```

Convolved Image

Loading [MathJax]/jax/output/HTML-CSS/jax.js