# **INTERPOLATION METHODS USING OPENCV**

**METHODS**

**1.INTER\_AREA**

**2.INTER\_NEAREST**

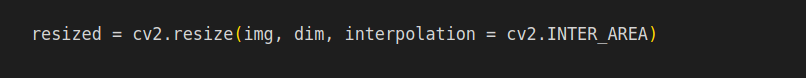
**3.INTER\_LINEAR**

**4.INTER-LINEAR-EXACT**

**5.INTER\_CUBIC**

**1.INTER\_AREA**

INTER\_AREA works better in image decimation and avoiding false inference patterns in images.

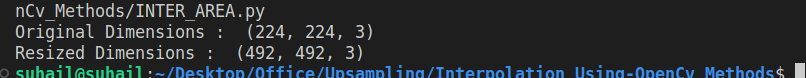


**ORIGINAL IMAGE**



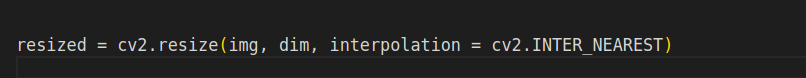
**RESULT**





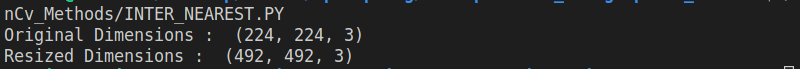
## **2. INTER\_NEAREST**

Nearest neighbor interpolation algorithm. It retains the sharpness of the edges though the overall image may be blurred.



**RESULT**

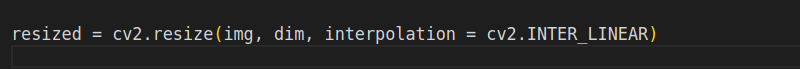




## **3. INTER\_LINEAR**

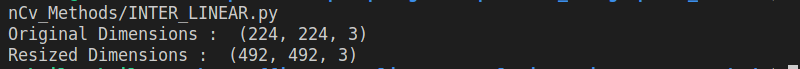
INTER\_NEAREST, this does the interpolation in two dimensions and predicts the function used to calculate the color of a pixel.

This algorithm is effective in handling visual distortions while zooming or enlarging an image.



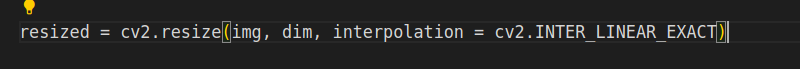
**RESULT**





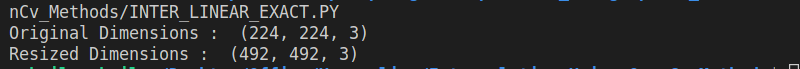
## **4. INTER\_LINEAR\_EXACT**

INTER\_LINEAR\_EXACT is a modification of INTER\_LINEAR and both uses bilinear interpolation algorithm. The only difference is that the calculations in INTER\_LINEAR\_EXACT are accurate to a bit.



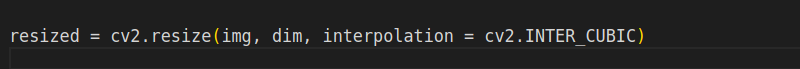
**RESULT**





## **5. INTER\_CUBIC**

This option uses bicubic interpolation technique. This is an extension of cubic interpolation technique and is used for 2 dimension regular grid patterns.

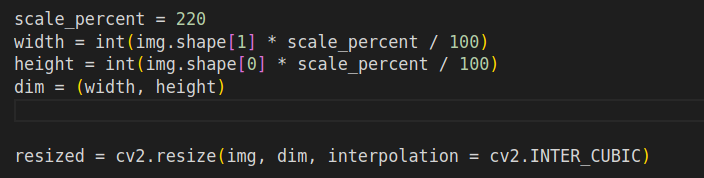


**RESULT –NOT GOOD**

**OTHER METHODS**

1. NTER\_LANCZOS4
2. INTER\_MAX
3. WARP\_FILL\_OUTLIERS
4. WARP\_INVERSE\_MAP

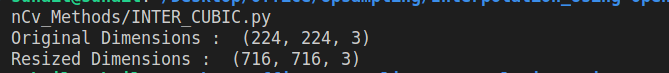
**CODE**



**SCALE PRECENTAGE 220**

**Tried with higher scale**





**DIRECT APPROCH BICUBIC INTERPOLATION**

**Result**



**Code**

