

Lesson 5: Image Resizing, Cropping, and Flipping

Resize:

```
resized = cv2.resize(image, (300, 300))
```

Crop using NumPy slicing:

```
cropped = image[100:300, 200:400]
```

Flip image:

```
flipped_h = cv2.flip(image, 1) # Horizontal
```

```
flipped_v = cv2.flip(image, 0) # Vertical
```

```
flipped_both = cv2.flip(image, -1)
```

Tip: When resizing, maintain aspect ratio to prevent distortion:

```
scale_percent = 50
```

```
width = int(image.shape[1] * scale_percent / 100)
```

```
height = int(image.shape[0] * scale_percent / 100)
```

```
dim = (width, height)
```

```
resized = cv2.resize(image, dim)
```
