

Computer Vision

Computer Vision : Understanding what computer sees. in image. (visualize the world)

- object detection → main we see
- 2D-3D
- Image and Video processing
 - ↳ neural Network
- Scene Segmentation → comparing with scene
- video and image content indexing
 - ↳ what happen on pixel changes

⇒ It is the future of Automation.

New Areas of Development.

Some Things That we can do

- Automatic video Tagging

- Security Systems
- ID verification
- Industrial Maintenance

The things that we will see

- open cv : library computer vision
- Mediapipe : library for body detection

Commands :

- Install conda
- Install notebook
- Install open cv

Open cv

OpenCV : An open source library developed by Intel.
for real time implementation of computer vision.

- Image processing

2. Open or capture images in BGR format.

BGR works not fine then hsv.

hue \rightarrow color 1-179

S \rightarrow saturation \rightarrow color mixed with white

value \rightarrow color mixed with black.

RGB \rightarrow Primary colors use

hsv \rightarrow . Just as human eye
more suitable of separation

Any Image : Edge detection

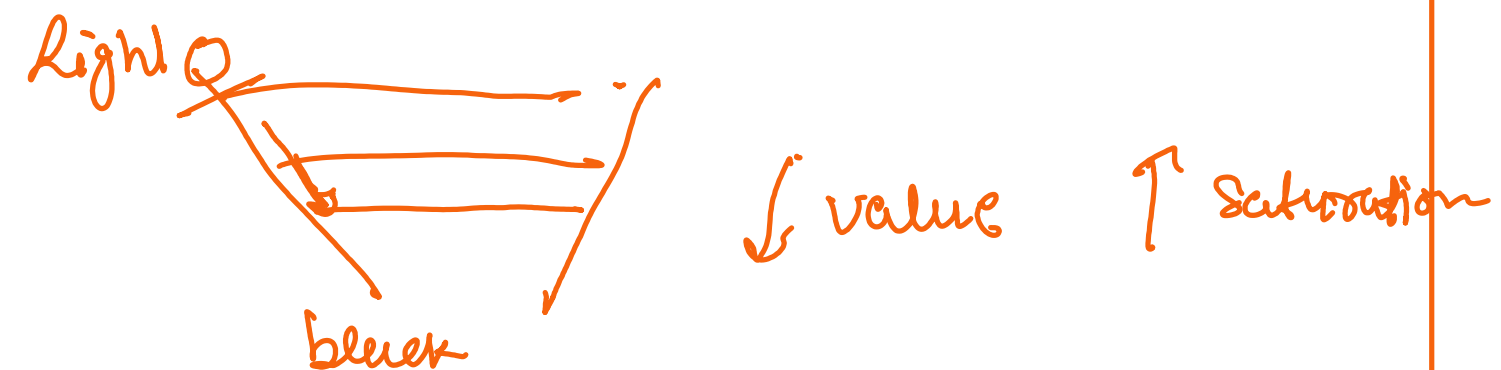
Erosion : Noise Removal

Dilation : filling some values

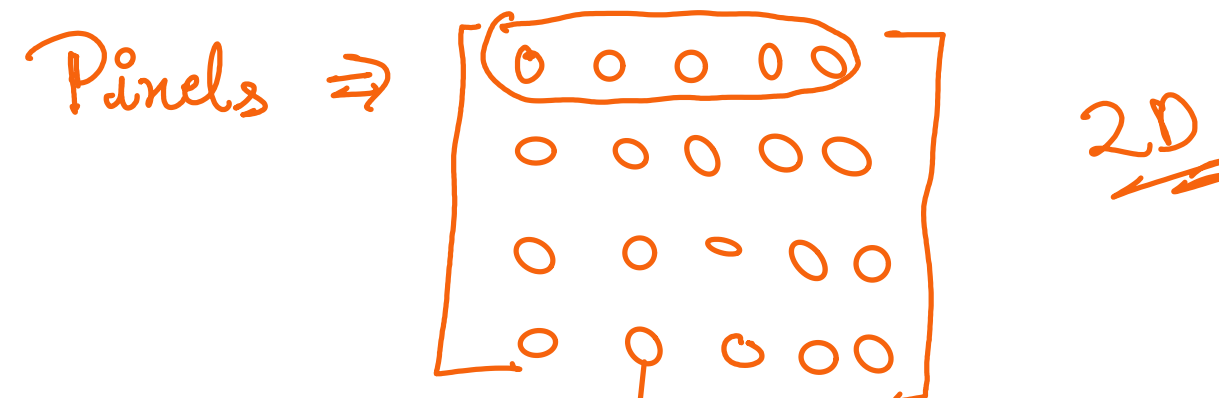
hue : color

Saturation : separation from white

value : separation from black



Noise decreases



[channel] \rightarrow can be

3

hsv

RGB

1

Gray scale \rightarrow only one scale (b s w).

separation can be easily done

Basic colors \rightarrow forming many colors