Seminar On Image Processing

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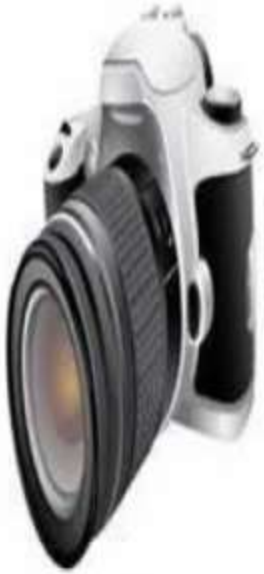
What is Image Processing ?

Image Processing is any form of signal processing for which our input is an image, such as photographs or frames of video and our output can be either an image or a set of characteristics or parameters related to the image.

Image Processing generally refers to processing of two dimensional picture and by two dimensional picture we implies a *digital image*.

3d world around us

captured by



a camera

and sent to

Digital Image Processing System

a particular system to focus on a water drop,

that's gives its ouput as an

Processed image

Applications

- Face detection
- Feature detection
- Non-photorealistic rendering
- Medical image processing
- Microscope image processing
- Morphological image processing
- Remote sensing
- Automated Sieving Procedures
- Finger print recognization

Purpose of Image Processing

- **Visualization** - Observe the objects that are not visible.
- **Image sharpening and restoration** - To create a better image.
- **Image retrieval** - Seek for the image of interest.
- **Measurement of pattern** – Measures various objects in an image.
- **Image Recognition** – Distinguish the objects in an image.

Types

- Analog Image Processing
- Digital Image Processing
- Optical Image Processing

Components of Image Processing

- Image Sensors
- Image Displays
- Image Processing
- Software(OpenCV, Mat lab, CIMG)
- Image Processing Hardware
- Memory

Future

- ✓ We all are in midst of revolution ignited by fast development in computer technology and imaging.
- ✓ Against common belief, computers are not able to match humans in calculation related to image processing and analysis.

Advantages

- This one is more accurate than the overlapping method because it is based upon minutia.
- It is an interactive method for recognizing fingerprints.

Disadvantages

- It is more time consuming as compared to the former.
- More complex program.

Conclusion

Using image processing techniques, we can sharpen the images, contrast to make a graphic display more useful for display, reduce amount of memory requirement for storing image information, etc., due to such techniques, image processing is applied in recognition of images.

Reference

www.google.com
www.wikipedia.com
www.studymafia.org

Thanks..