

4. Fundamentals of Image Processing

CISST, Sardar patel University, Vallabh Vidyanagar is planning to offer a short term course on **Fundamentals of Image Processing** jointly with ADIT, New V V Nagar. Apart from lectures Hands-on practical sessions and applications are the major components of this skill based add on certificate course.

Course Content

- Introduction to image processing and its applications, image representation and sampling, basic operations on images, relationship between pixels. Image Enhancement: Introduction to point processing, pixel intensity transformations, histogram equalization and matching. Filtering Techniques: Introduction to spatial filtering, convolution, image smoothing and sharpening, the Fourier transform and spectral filtering techniques.
- Image Restoration: Basic model of image restoration processing, noise models, restoration using spatial and spectral filtering, geometric transformations. Image Morphology: Basic concepts from set theory, dilation and erosion, opening and closing, basic algorithms: boundary extraction, region filling, thinning, thickening, skeletons. Image Compression: Introduction to redundancy, variable length coding, Huffman coding, arithmetic coding, JPEG.

Resource Persons:

Experts from ADIT and CISST will be providing the expertise training.

Target Audience

- Interested students of B.Sc., M.Sc. of maths, physics, biology, electronics, computer science, chemistry, persons interested in digital arts and multimedia group and other medical practitioners using various diagnostic images will be benefitted from this course.

Benefits of the course

The course can enable the participants to have skill based practical knowledge on Biomedical Image Processing, Document Image Processing, Video Processing, image Forgery Detection, Image Impainting, Image Segmentation, Computer Vision, Face Recognition, Pose Detection, Ear and Nose detection and so on.

Course Duration: 30 hours

Minimum No. Of Registration reqrd: 15

Contact details & Enquiry for Registration: Email: kirtandave@spuvn.edu,
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