

A Technical course on

## ADVANCED IMAGING

**Imaging** is the representation or reproduction of an object (especially a visual representation i.e., the formation of an image). Images formed through different sensors are processed for extraction of data and information which is done through different Image Processing Techniques.

This advanced course is designed to cover theoretical concepts and Practical sessions on the following topics:

**Image Formation** - The Image Formation section explores the basic issues of digital imagery: geometry, radiometry, photometry and digitization. This section concentrates on the digitization process, particularly in terms of how an image can be viewed as a mapping of the actual scene.

**Image Enhancement** - This section explores linear and non-linear filtering, histogram equalization, and other image enhancement techniques.

**Edge and Line Extraction and Description** - Various types of edge detection schemes, such as first and second derivative, Sobel, Prewitt and facet models, are covered in this section. Other related topics, such as edge thresholding and edge thinning, are also discussed.

**Morphology** - This section describes binary and gray scale morphology from the basic filtering techniques (open, close, tophat) up to the most advanced segmentation techniques (skeleton, watershed). Various relevant Examples will be shown as per the nature of these operators.

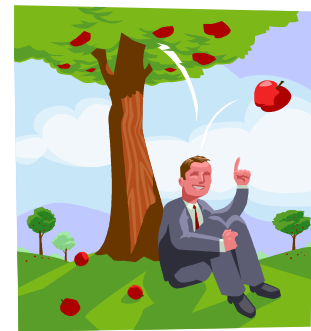
**Image Segmentation** - The Image Segmentation explores a variety of region segmentation algorithms, such as region split and merge techniques, region growing, histogram peak/valley analysis, and a number of thresholding methods.

**Convolution, Filtering, and Fourier Transform** - This section explores the applications of these fundamental image processing techniques. Also covered is the important relationship between the spatial processing approach of convolution and the frequency processing approach of Fourier Filtering.

## Learn “Advanced Imaging”

*Beyond Class Room*

*“Theory n Practice”*



*From the Experts*

**ADCIS France**



**&**

**Online Solutions**

**(Imaging)**

**Pvt. Ltd., India**

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### Pattern of Teaching and benefits of Learning:

Every concept taught will have practical sessions with full-fledged Imaging systems including camera and optics, state of the art software – the Aphelion software suite and multiple application examples in different fields of use.

Advanced Imaging course will also include separate sessions for nurturing programming skills on Imaging using C++, Visual Basic etc.

The attendees will gain theoretical and practical knowledge on all concepts of Imaging and programming and the course thereby makes them qualified “On Field application Engineers and Research engineers” in different avenues of Imaging like Medical, Industrial Automation, Intelligent Security, Material Science etc.

Students from engineering graduation in electronics, electrical, computer science & Metrology who have completed or pursuing the degree can attend this course for learning advanced imaging concepts with real world implementation and enrich their logical skills.

**About ADCIS, France** – Founded in 1995 ADCIS (Advanced Concepts in Imaging Software) develops innovative, high-performance computer vision and Imaging software products. Its flagship product is the Aphelion™ Imaging Software Suite, widely used by Fortune 100 companies worldwide and provides high quality training in fields of Imaging and Vision with their state-of-the-art software product “Aphelion”. The ADCIS development team is made up of high-level engineers, all experts in the fields of Image Processing and Analysis.

**About Online Solutions (Imaging) Pvt. Ltd., India** – Founded in 1996 as a company that would provide solutions in the field of computer vision, imaging and video to different customer base that includes education, Research, Space and Defense, Industry, Security, Agriculture etc. As a commitment to the next generation, the company is working towards introducing the technology and concepts of Imaging and Vision to educational institutions in India.

### CONTACT

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### Medical Imaging



### Security



### Industrial Vision & Material Science

