

Chapter 1. Introduction

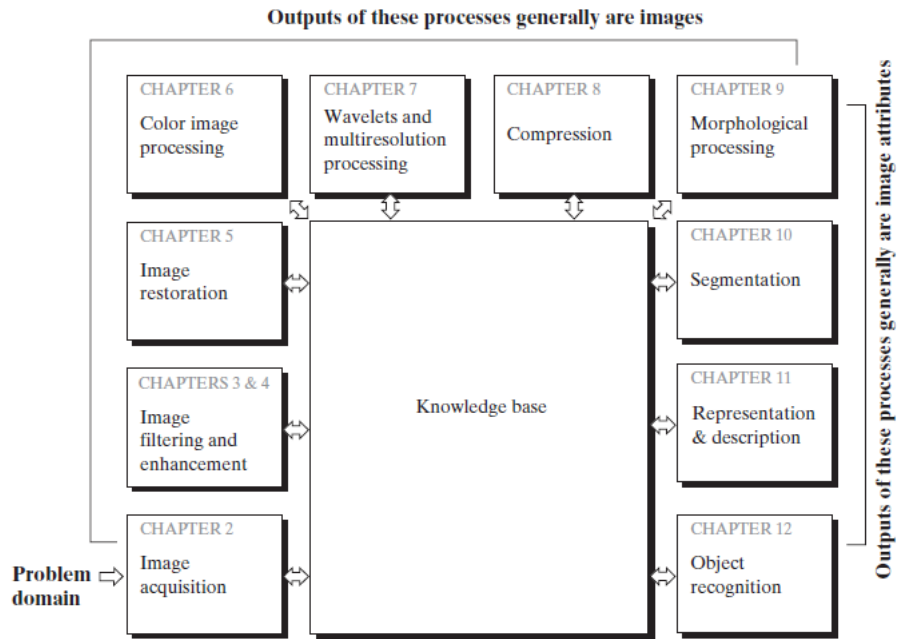
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1 What Is Digital Image Processing?

An image may be defined as a two-dimensional function, $f(x, y)$, where x and y are *spatial* (plane) coordinates, and the amplitude of f at any pair of coordinates (x, y) is called the *intensity* or *gray level* of the image at that point.

When x , y , and the intensity values of f are all finite, discrete quantities, the image is called a *digital image*. A digital image is composed of a finite number of elements, each of which has a particular location and value, called *picture elements*, *image elements*, *pels*, and *pixels*

2 Fundamental Steps in Digital Image Processing



3 Components of an Image Processing System

