

Digital Image Processing

Introduction

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Table of Contents

① What is a digital image?

② What is Digital image processing

Key in Digital image processing

Image Aquisition

Image restoration

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

Introduction to Scientific Python

Elham
Taghizadeh

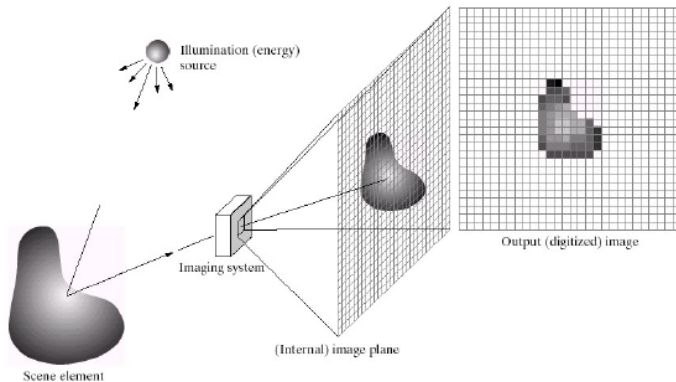
3 References



What is a digital image?

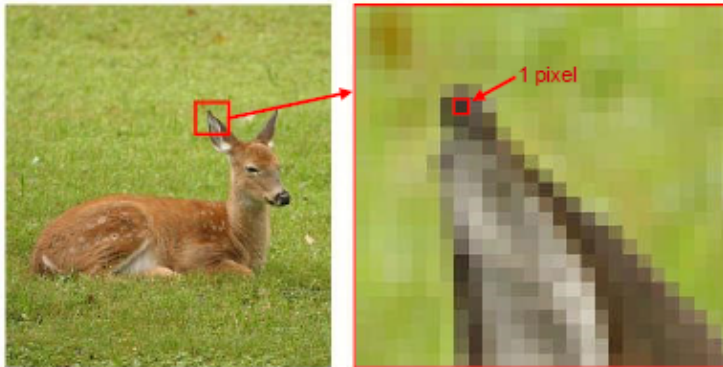


A digital image is a representation of a two dimensional image as a finite set of digital values, called picture elements or pixels





Pixel values typically represent gray levels, colours, heights, opacities etc.
Remember digitization implies that a digital image is an approximation of a real scene.





Common image formats include:

- sample per point (B W or Grayscale)
- samples per point (Red, Green, and Blue)
- samples per point (Red, Green, Blue, and 'Alpha', a.k.a. Opacity)





What is Digital image processing

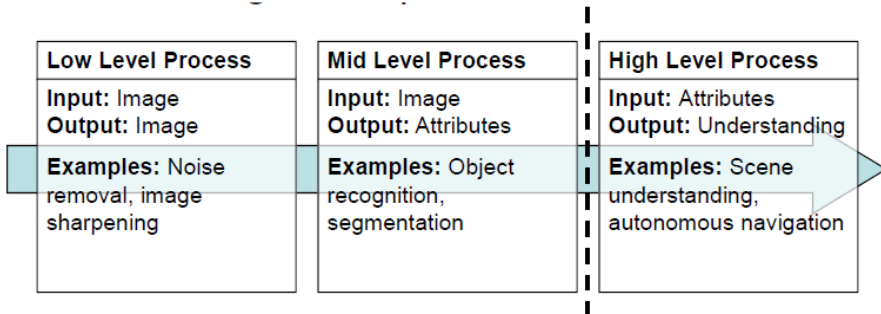


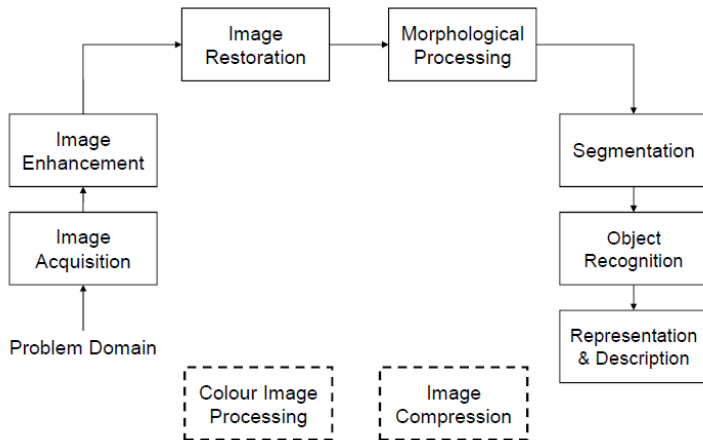
Digital image processing focuses on two major tasks

- Improvement of pictorial information for human interpretation
- Processing of image data for storage, transmission and representation for autonomous machine perception

Some argument about where image processing ends and fields such as image analysis and computer vision start.

The continuum from image processing to computer vision can be broken up into low-mid- and high-level processes.





Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

References



Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

References

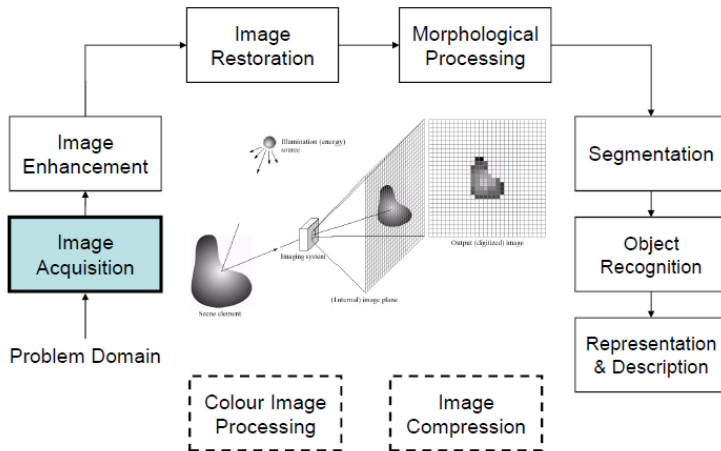
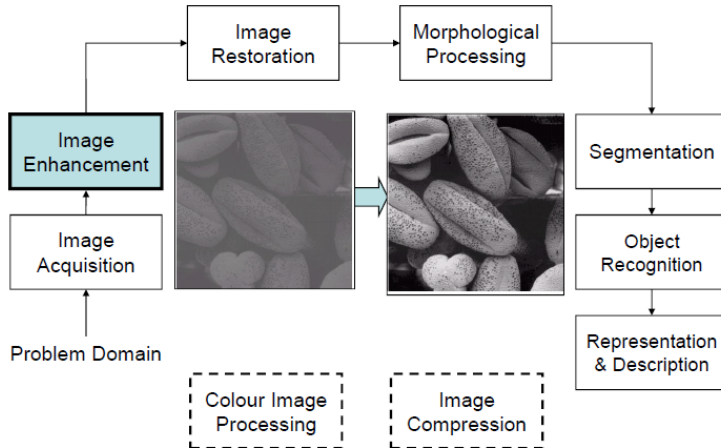




Image filtering and enhancement



Introduction
to Scientific
Python

Elham
Taghizadeh

What is a
digital image?

What is
Digital image
processing

Key in Digital image
processing

Image Acquisition

Image restoration

Morphological
Processing

Segmentation

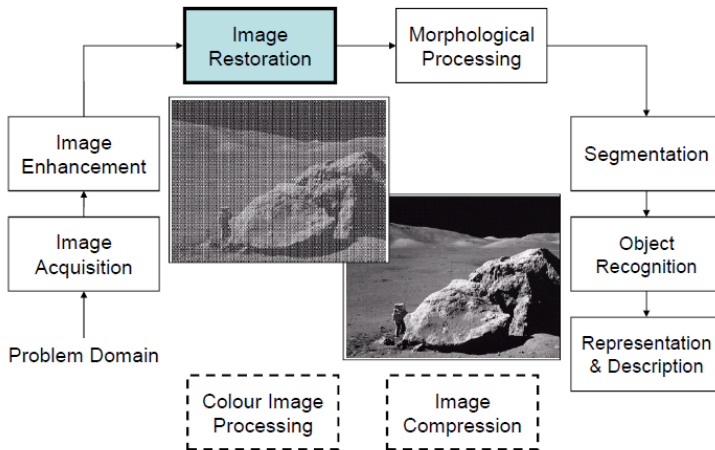
Object Recognition

Representation and
Description

Image Compression

Color Image
Processing

References



Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

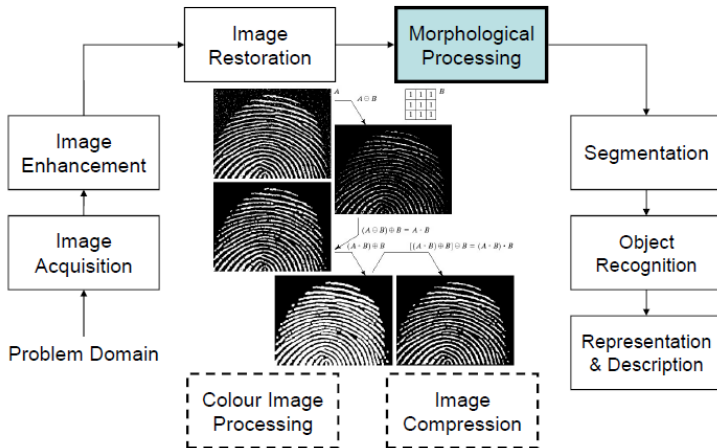
Object Recognition

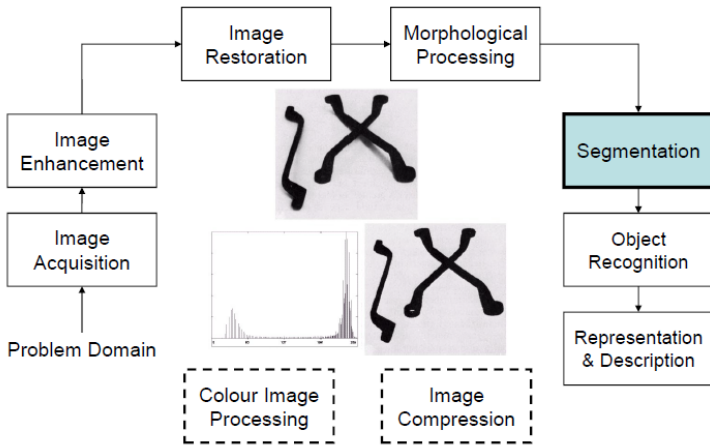
Representation and Description

Image Compression

Color Image Processing

References





Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

References



Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

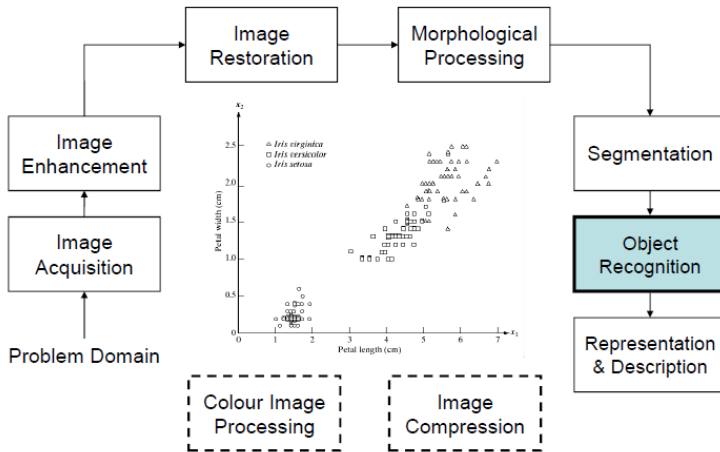
Object Recognition

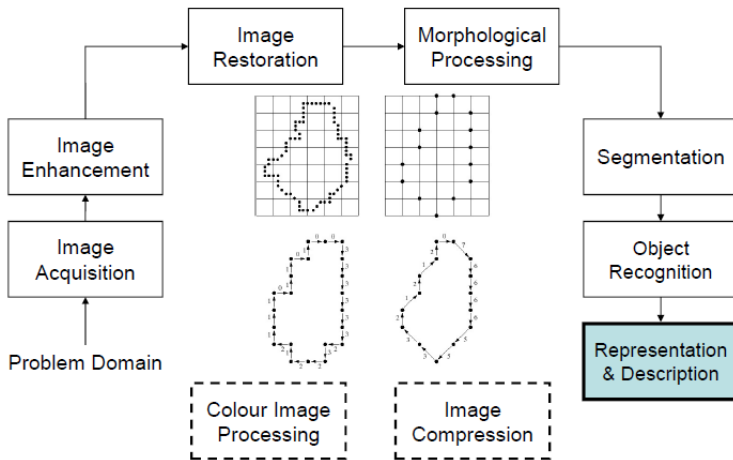
Representation and Description

Image Compression

Color Image Processing

References





Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

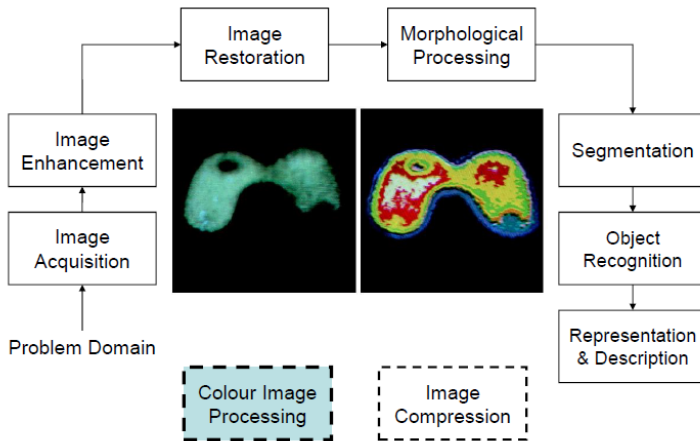
Object Recognition

Representation and Description

Image Compression

Color Image Processing

References



Introduction to Scientific Python

Elham Taghizadeh

What is a digital image?

What is Digital image processing

Key in Digital image processing

Image Acquisition

Image restoration

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

References



References



Introduction to Scientific Python

Elham
Taghizadeh

What is a digital image?

What is Digital image processing

Image Aquisition

Morphological Processing

Segmentation

Object Recognition

Representation and Description

Image Compression

Color Image Processing

References