

Digital Image Processing

Author: Murlu Ramubhai Pillamari , Pragma Sharma

Co-Author: Prof. Vivek Dave

Department of MCA, Parul University, Vadodara, India

Abstract: Utilizing different computer algorithms DIP(Digital Image Processing) do the process of digital images. This digital image processing has been employed in number of areas such as pattern apperception, remote sensing, image-sharpening, color and video processing and medical. This paper presents a brief overview and literature review of digital image processing techniques such as image preprocessing, image compression, edge detection and segmentation.

KEYWORDS: Segmentation , Compression, Digital image processing, Edge detection.

1. INTRODUCTION

The image processing is an analyzed and manipulation of a digitalized image, especially in order to ameliorate the quality of image processing. DIP technique can be applied in variety of different fields such as Diagnostic image analysis, Surgical orchestrating, Object detection and Matching, Background subtraction in video, Localization of tumors, Quantifying tissue volumes, Locate objects in satellite images (roads, forests, etc.) ,Traffic control systems, Locating objects in face apperception, iris apperception, agricultural imaging, and medical imaging.

Digital image processing is a very popular and expeditiously growing area of application under computer science engineering. Its magnification leads by technological innovations in the fields of digital imaging, computer processing and mass storage contrivances. Fields which have been traditionally utilizing analog imaging are now switching to digital systems, for their edibility and affordability. Paramount examples are medicine, and video engenderment, photography, remote sensing, and security monitoring.

2. APPLICATION AREA

2.1. MEDICAL FIELD

The advanced pictures postulate an essential job consistently. The clinical imaging preparing alludes to dealing with pictures by utilizing the PC. This handling incorporates numerous kinds of strategies and tasks, for example, picture picking up, capacity, prelude, and correspondence.

2.2. REMOTE SENSING

The advanced pictures postulate an essential job consistently. The clinical imaging preparing alludes to dealing with pictures by utilizing the PC. This handling incorporates numerous kinds of strategies and tasks, for example, picture picking up, capacity, exordium, and correspondence.

2.3. TRANSMISSION AND ENCODING

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2.4. MACHINE/ROBOT VISION

Machine vision (MV) is the innovation and techniques used to give imaging-predicated programmed review and examination for such applications as programmed investigation, process control, and robot direction, generally in industry. Machine vision alludes to numerous advancements, programming and equipment items, incorporated frameworks, activities, strategies and aptitude. Machine vision as a frameworks designing control can be viewed as particular from PC vision, a type of software engineering.

3. ALGORITHM

- 3.1. Image compression of Mariel Jung.
- 3.2. J. Shanbehzadeh and A. farahmand - Image description and representation.
- 3.3. Richard Szeliski - Computer Vision: Algorithms and Applications

4. TOOLS AND TECHNOLOGY

- 4.1. Image Acquisition.
- 4.2. ObjectImage Pre-processing.
- 4.3. Image Segmentation.
- 4.4. K-implies bunching.
- 4.5. Feature Extraction.
- 4.6. Statistical analysis and classification.

5. CURRENT R&D WORKS IN THE FIELD

5.1. Plant Health Monitoring through Digital Image Processing

The consequential reason for a abating in the quality and quantify of agrarian profitability is plant maladies. Ranchers experience extraordinary challenges in distinguishing and controlling plant illnesses. In this manner, it is vital to analyze the plant infections at beginning times so fitting and opportune move can be made by the ranchers to maintain a strategic distance from further misfortunes. The task centers around the methodology dependent on picture preparing for identification of maladies of cashew plants. Right now, propose an Android application that avails ranchers for distinguishing cashew illness by transferring the leaf picture to the framework. The framework has a plethora of calculations that can apperceive the scarcely infection. Info picture given by the client experiences a few handling steps to distinguish the infection and results are returned back to the client by denotes of android application.

