

Review Paper on Image Processing Techniques

Bhoj Raj

Department of Electrical Engineering
Vivekananda Global University, Jaipur
Email ID:bhojrajagarwal@vgu.ac.in

ABSTRACT: Image preparing is among quickly developing advances today, with its applications in different viewpoints of a business. Picture Processing structures center exploration region inside hardware designing and software engineering trains as well. Picture Processing is a method to improve crude pictures got from satellites, space tests, airplanes, military observation flights or pictures taken in ordinary everyday life from typical cameras. The field is turning out to be ground-breaking and famous on account of actually amazing PCs, enormous recollections of accessible gadgets as well as realistic virtual products and instruments accessible with that gadgets and contraptions. Picture obtaining, pre-handling, division, portrayal, acknowledgment and understanding are the diverse essential strides through which picture handling is done.

KEY WORDS: Image Processing Techniques, Analog Image Processing

INTRODUCTION

Image processing is processing of images using mathematical operations by using any form of signal processing on any form of an image, such as a photograph or video frame they are used in various applications such as.–

Printing Industry

Document processing

Textiles

Medical imaging

Research centers

Graphic arts

Military applications

Material science

Forensic studies

There are two types of image processing[1]

Analog Image Processing:

Simple picture preparing is the change of picture appearance by electrically fluctuating the sign. The plentifulness of the sign is changed so that brilliance and contrasts in the pictures are changed[2].

Digital Image Processing:

In computerized picture handling at first, the picture will be changed over into advanced structure utilizing a scanner or digitizer and at that point, it is handled. For example, the picture information isn't just simple in nature yet it has numerous degrees of unpredictability. The information can be estimated in a direct manner as it has just one measurement of fluctuation for example temperature (cold to hot).Applying mathematical qualities to temperature, the picture itself tend to numeric portrayal[3].Fundamentally to deliver practical information from a logical point of view. Picture improvement procedures (like the difference extending or

de-obscuring by a closest neighbor strategy) given by imaging bundles utilize no from the earlier model of the cycle that made the picture[4].

Morphological Analysis:

Morphological picture preparing is an assortment of nonlinear tasks identified with the shape or morphology of highlights in a picture. Morphological activities depend just on the general requesting of pixel esteems, not on their mathematical values, and accordingly are particularly fit to the handling of parallel pictures. Morphological tasks can likewise be applied to greyscale pictures with the end goal that their light exchange capacities are obscure and hence their outright pixel values are of no or minor interest .e. g. commotion expulsion, picture handling.



Fig. 1: Morphological Image Processing

Segmentation:

It is the way toward separating a picture into its constituent parts. Yield is normally a crude pixel information. Picture division is normally used to find objects and limits (lines, bends, and so on) in pictures. All the more exactly, picture division is the way toward doling out a name to each pixel in a picture to such an extent that pixels with a similar name share certain attributes[5].



Fig 2: Segmentation

Representation:

Portrayal is the way toward moving crude information into a structure that is appropriate for additional PC preparing. There are two sorts of portrayal methods.

- Boundary portrayal
- Region portrayal

Limit portrayal is fitting when the zero in is on inward shape qualities for example corner, adjusted. District portrayal is fitting when the zero in is on inside properties. e. g. surface, skeletal shape[6].

Pre-Processing:

It improves pictures in manners that expansion the possibility of achievement of different cycles like Image Enhancement: Picture improvement is the way toward changing advanced pictures with the goal that the outcomes are more appropriate for show or further picture examination. For instance, you can eliminate commotion, hone, or light up a picture, making it simpler to distinguish key highlights[7].

REVIEW OF LITERATURE

There have been many paper published in the field of image processing technique among all the papers a paper titled “Review Paper on Image Processing Techniques” by Ms. Pradnya M. Kulkarni Mrs. Archana.N.Naik² Ms. Arati P. Bhadvankar³ discusses the image processing and their use advantages disadvantages, shown the difference between digital and analog image processing, preprocessing, image comparison, restoration, segmentation. In this paper, many picture preparing procedures like picture division, pressure, edge discovery, and so on are examined. Picking a picture preparing technique depends upon its application for which it will be used. Each the procedure has its own preferred position and hindrance yet it changes over the info picture into that structure which is appropriate for further preparing. This paper will be useful to learners for understanding the fundamental ideas of picture handling[6].

CONCLUSION

In this paper, many picture preparing procedures like picture division, pressure, edge discovery, and so on are examined. Picking a picture preparing technique depends upon its application for which it will be used. Each the procedure has its own preferred position and hindrance yet it changes over the info picture into that structure which is appropriate for further preparing. This paper will be useful to learners for understanding the fundamental ideas of picture handling.

REFERENCES

- [1] W. K. Pratt, *Processing Digital Image Processing*. 2001.
 - [2] A. K. Prasad, “Particle image velocimetry,” *Curr. Sci.*, 2000, doi: 10.1201/b19031-55.
 - [3] S. Vitulano, C. Di Ruberto, and M. Nappi, “Biomedical image processing,” 1996, doi: 10.4018/jhisi.2012010105.
 - [4] A. Kamilaris and F. X. Prenafeta-Boldú, “Deep learning in agriculture: A survey,” *Computers and Electronics in Agriculture*. 2018, doi: 10.1016/j.compag.2018.02.016.
 - [5] C. E. Willert and M. Gharib, “Digital particle image velocimetry,” *Exp. Fluids*, 1991, doi: 10.1007/BF00190388.
 - [6] R. D. Fiete, “Image Enhancement Processing,” in *Modeling the Imaging Chain of Digital Cameras*, 2010.
 - [7] S. W. Smith, “Special Imaging Techniques,” in *Digital Signal Processing*, 2003.
- Basant Ali Sayed Alia, Abeer Badr El Din Ahmedb, Alaa El Din Muhammad, El Ghazalic and Vishal Jain, "Incremental Learning Approach for Enhancing the Performance of Multi-Layer Perceptron for Determining the Stock Trend", International Journal of Sciences: Basic and Applied Research (IJSBAR), Jordan, page no. 15 to 23, having ISSN 2307-4531.
 - Dildar Husain, Mohammad Omar, Khaleel Ahmad, Vishal Jain and Ritika Wason, “Load Status Evaluation for Load Balancing in Distributed Database Servers”, 3C Technology, Glosses of innovation applied to the SME, ISSN: 2254-4143, Vol. 29, Issue 2, page no. 422-447.
 - Dipti Mishra, Mohamed Hashim Minver, Bhagwan Das, Nisha Pandey and Vishal Jain, “An Efficient Face Detection and Recognition for Video Surveillance”, Indian Journal of Science and Technology, Volume 9, Issue 48, December 2016, page no. 1-10 having ISSN No. 0974-6846.
 - J Ganeshkumar, N Rajesh, J Elavarasan, M Sarmila, S Balamurugan, “A Survey on Decentralized Access Control Strategies for Data Stored in Clouds”, International Journal of Innovative Research in Computer and Communication Engineering, 2015
 - J Ganeshkumar, N Rajesh, J Elavarasan, M Sarmila, S Balamurugan, “Investigations on Decentralized Access Control Strategies for Anonymous Authentication of Data Stored In Clouds”, International Journal of Innovative Research in Computer and Communication Engineering, 2015
 - VM Prabhakaran, S Balamurugan, S Charanyaa, “Sequence Flow Modelling for Efficient Protection of Personal Health Records (PHRs) in Cloud”, International Journal of Innovative Research in Computer and Communication Engineering, 2015