International Journal of Advance Research in Science and Engineering
Vol. No.5, Issue No. 10 , October 2016
www.ijarse.com
IJARSE
ISSN (O) 2319 - 8354
ISSN (P) 2319 - 8346

INTEGRATIVE APPROACHES OF MIXING TECHNOLOGY USED IN COMPUTER SCIENCE

Md. Shahnawaz Akhtar

Research Scholar, Department of Computer Science, OPJS University, Churu, Rajastan (India)

ABSTRACT

Since digital image processing has very wide applications and almost all of the technical fields are impacted by DIP, in this paper we will just discuss some of the major applications of DIP, importance of brightness and contractness ,concept of camera mechanism,colour codes and importance of graphics etc.

The above mention topics have very importance in the field of computer science in the form of a mixed signal integrated circuits.As we know application of Digital image processing is widely used in image sharpening,medical field ,remote sensing,transmission and encoding,machine/robot system,colour processing ,video processing,microscopic images etc.

Key words: *Information Technology, RF, CMOS, ICs, CAD, E-Resources*

I. INTRODUCTION

Since digital image processing has very wide applications and almost all of the technical fields areimpacted by DIP, we will just discuss some of the major applications of DIP. Digital Image processing is not just limited to adjust the spatial resolution of the everyday images captured by the camera. It is not just limited to increase the brightness of the photo, e.t.c. Rather it is far more than that.Electromagnetic waves can be thought of as stream of particles, where each particle is moving with the speed of light. Each particle contains a bundle of energy. This bundle of energy is called aphoton.

II. APPLICATIONS OF DIGITAL IMAGE PROCESSING

Some of the major fields in which digital image processing is widely used are mentioned below

Image sharpening and restoration

Medical field

Remote sensing

Transmission and encoding

network interface.

Machine/Robot vision

Color processing

Pattern recognition

Video processing

IJARSE
ISSN (O) 2319 - 8354
ISSN (P) 2319 - 8346

Microscopic Imaging

Others

II. IMAGE SHARPENING AND RESTORATION

Image sharpening and restoration refers here to process images that have been captured from the modern camera to make them a better image or to manipulate those images in way to achieve desired result. It refers to do what Photoshop usually does. This includes Zooming, blurring , sharpening , gray scale to color conversion, detecting edges and vice versa , Image retrieval and Image recognition

IV. MEDICAL FIELD

The common applications of DIP in the field of medical is

Gamma ray imaging

PET scan

X Ray Imaging

Medical CT

UV imaging

V. UV IMAGING

In the field of remote sensing , the area of the earth is scanned by a satellite or from a very high ground and then it is analyzed to obtain information about it. One particular application of digital image processing in the field of remote sensing is to detect infrastructure damages caused by an earthquake.

As it takes longer time to grasp damage, even if serious damages are focused on. Since the area effected by the earthquake is sometimes so wide , that it not possible to examine it with human eye in order to estimate damages. Even if it is , then it is very hectic and time consuming procedure. So a solution to this is found in digital image processing. An image of the effected area is captured from the above ground and then it is analyzed to detect the various types of damage

VI. TRANSMISSION AND ENCODING

The very first image that has been transmitted over the wire was from London to New York via a submarine cable Now just imagine , that today we are able to see live video feed , or live cctv footage from one continent to another with just a delay of seconds. It means that a lot of work has been done in this field too. This field does not only focus on transmission , but also on encoding. Many different formats have been developed for high or low band with to encode photos and then stream it over the internet or e.t.c.

VII. MACHINE/ROBOT VISION

Apart from the many challenges that a robot face today , one of the biggest challenge still is to increase the vision of the robot. Make robot able to see things , identify them , identify the hurdles e.t.c.

IJARSE
ISSN (O) 2319 - 8354
ISSN (P) 2319 - 8346

Much work has been contributed by this field and a complete other field of computer vision has been introduced to work on it.

VIII. EDUCATION AND TRAINING

Computer generated models of physical systems

Medical Visualization

3D MRI

Dental and bone scans

Stimulators for training of pilots etc.

REFERENCES

[1]. Kurzweil, R. 2000. *The Age of Spiritual Machines*. Penguin.

[2]. Lenat, D. B., and Guha, R. V. 1990. *Building Large Knowledge-Based Systems*. Addison-Wesley.

[3]. Looks, M.; Goertzel, B.; and Pennachin, C. 2004. Novamente: An integrative architecture for artificial general intelligence. In *Proceedings of the AAAI Fall Symposium Series*. AAAI Press.

[4]. Looks, M.; Goertzel, B.; and Pennachin, C. 2005. Learning computer programs with the Bayesian optimization algorithm. In *Proceedings of the Genetic and Evolutionary Computation Conference*. Springer-Verlag.

[5]. Mareschal, D., and Johnson, S. P. 2002. Learning to perceive object unity. *Developmental Science* 5:2:151–185.

[6]. Marr, D. 1982. *Vision: a computational investigation into the human representation and processing of visual information*. W. H. Freeman.

[7]. Deacon, T. 1997. *The Symbolic Species*. Norton.

[8]. Dennett, D. 1978. *Brainstorms: Philosophical Essays on Mind and Psychology*. Bradford Books.

[9]. Edelman, G. M. 1988. *Neural Darwinism: The Theory of Neuronal Group Selection*. Basic Books.

[10]. Eliasmith, C., and Anderson, C. 2003. *Neural Engineering*. MIT Press.

[11]. Anderson, J. R. 1993. *Rules of the Mind*. Erlbaum.

[12]. Baddeley, A. 1999. *Essentials of Human Memory*. Taylor and Francis Group.

[13]. Bateson, G. 1980. *Mind and Nature: a Necessary Unity*.

[14]. Fontana.

[15]. Baum, E. B. 2004. *What is Thought?* MIT Press. Blank, D. S.; Kumar, D.; and Meeden, L. 2002. A developmental approach to intelligence. In *Proceedings of*

[16]. *the Thirteenth Annual Midwest Artificial Intelligence and Cognitive Science Society Conference*.