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***ABSTRACT***

This first session of the project talks about the basics of the digital image processing and image segmentation which is the fundamental step to analyse images and extract data from them. It is the field widely researched and still offers various challenges for the researchers.

The field of image processing has grown considerably during the past decade with the increased utilization of imagery in myriad applications coupled with improvements in the size, speed, and cost effectiveness of digital computers and related signal processing technologies. Image processing has found a significant role in scientific, industrial, space, and government applications. At the beginning of that decade, many image processing techniques were of academic interest only; their execution was too slow and too costly.

Today, thanks to algorithmic and implementation advances, image processing has become a vital cost-effective technology in a host of applications.

Now, in this beginning of the twenty-first century, image processing has become a mature engineering discipline. But advances in the theoretical basis of image processing continue

This report tries to put light on the basic principles on the methods used to segment an image and concentrates on the idea behind the basic methods used. Image segmentation can be broadly be categorized as semi-interactive approach and fully automatic approach and the algorithms developed lies in either of this approaches. Image segmentation is a crucial step as it directly influences the overall success to understand the image.

Here in this report, we discuss the Digital image processing which is the use of computer algorithms to perform image processing to digital images as we know Digital image processing is becoming more important in the areas of communication, remote sensing, medicals, defence, management, seismology, automation, robotics, aerospace and education.

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**LIST OF SYMBOLS**

(Example)

t= Thickness of the substrate

λ0 =Free space wavelength

λg = Guided wavelength

h=Height of dielectric substrate

**LIST OF ABBREVATIONS**

(Example)

RL = Return loss

Wi-Fi =Wireless fidelity

PDA =Personal digital assistant

WLAN =Wireless local area network

MMIC =Monolithic microwave integrated circuit

**LIST OF FIGURES**

(Example)

Figure-1.Geometry of rectangular patch antenna Page No

Figure-2. Microstrip patch with feed point

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