

THE STUDY OF MSR-CR TECHNIQUE IS USED FOR SKIN CANCER MEASUREMENT

Mahima Gupta¹ & Mohan Rao Mamdikar²

¹Research Scholar, Department of Computer Science and Engineering, Vishwavidhyalaya Engineering College, Sarguja, Chhattisgarh, India

²Assistant Professor, Department of Computer Science and Engineering, Vishwavidhyalaya Engineering College, Sarguja, Chhattisgarh, India

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ABSTRACT

Carcinoma could be a major public ill health within the lightweight abraded population. Carcinoma is split into non skin cancer skin cancer carcinoma and melanoma carcinoma. Non malignant melanoma carcinoma is that the form of carcinoma most rife cancer among white population. It's divided into basal cell cancer (75%), epithelial cell cancer (24%), and different rare sorts (1%) like fatty cancer. The essential think about assessment of patient prognosis in carcinoma is early designation. Recent work has shown that carcinoma recognition from pictures is feasible via supervised techniques like combined with feature extraction techniques. Different supervised classification techniques, like k-nearest neighbors additionally cluster pixels supported their similarities in every feature image are often accustomed classify the normal/abnormal pictures. Thus image process becomes our alternative for associate early detection of the carcinoma, because it is non-expensive technique. Connective tissue Malignancies will generally be classified into skin cancer and Non malignant melanoma Skin Cancers. Remainder of the connective tissue malignancies includes tumors arising from skin appendages like follicle, eccrine and apocrine glands, and fatty glands also as connective tissue Lymphomas. Basal Cell cancer and epithelial cell cancer, that square measure each derived from epidermic, keratinocytes and square measure commonest human skin cancers. Others embody malignant melanomas, and irregular cases of zymosis, fungoides, Dermato, fibrosarcoma, protuberans and connective tissue B-cell cancer. In India, skin malignancies are rising in incidence with many atypical displays. The medicines of common skin cancers in Republic of India are distinct from world trends and wish to be reviewed very well. The age of distribution, website affected and stage of illness helps in determinant the prognostic outlook for patients and coming up with a good management.

KEYWORDS: *Skin Cancer, Health Problem, Diseases, Radiation, Melanoma*

INTRODUCTION

This research work is fruitful for medical experts as well as patient of cancer. This research work is helpful in detection of cancer disease in early stage, better diagnosis, and provides preventive measure before the situation becomes critical [1]. This research work uses data mining approach and beneficial for cancer patient medical experts of society. Although the outlook for surviving cancer is often very good, it almost always requires medical intervention. The most common treatment modalities for cancer are surgery, radiation therapy, and systemic therapy (i.e., drugs) [2]. These medical interventions have documented survival advantages, but the implications for QOL are not trivial. Surgery is

performed on about 60% of cancer survivors [3]. Depending on the location and extent of the operation, significant morbidity can occur (e.g., wound complications, infections, loss of function, decreased range of motion, diarrhea, dyspnea, pain, numbness). Over 50% of cancer survivors may undergo radiation therapy at some point during the treatment process [4]. Radiation therapy is typically delivered in repeated small doses (i.e., Fractions) over a 5- to 8-week period to maximize the killing of cancer cells and minimize the damage to normal cells. Nevertheless, toxicity to normal tissue does occur but is dependent on the site that is irradiated (e.g., pain, blistering, reduced elasticity, decreased range of motion, nausea, fatigue, dry mouth, diarrhea, lung fibrosis, and cardiomyopathy) [5].

RELATED WORK

Our study analysis the research done during 2010 to 2017 in detection and classification of skin cancer using different imagery techniques. This paper presents a quick review that will help the future researchers to understand the techniques and methods that has been implemented till now. We present a summary of the 16 different papers reviewed by us as well as the techniques and methods used by those researches as follows:

Table 1: Imagery Techniques Used During 2010-2017 for Detection of Skin Cancer

Author's Name	Techniques Used	Critical Remarks
Loong Ng \]Mamun Bin Ibne Reaz, et al(2017)	Expert system, image processing, data mining, eczema, impetigo, melanoma, multilayer perception.	More than 85% accurate.Works only for three skin diseases: Eczema, Impetigo and Melanoma.
David N. Louis· Arie Perry· et al(2016)	An adaptive Neuro Fuzzy inference System (ANFIS) to discover fuzzy rules for classification of skin cancer.	The results of this paper are significant and quite promising for the future
Sreenivas setty, N.K. srinath	Artificial Neural Network, a computer aided diagnosis system for skin cancer detection	Images are classified as cancerous or noncancerous. Methodology used in the paper is 86.66% accurate
Nadia Smaoui et al(2016)	Segmentation using region growing, ABCD rule	3 diagnosis used in this research; melanoma, suspicious, & benign. System is 92% accurate.
H.P. Hu, Z.J. Niu et al(2016)	A dermoscopic database is represented.	It is a open source database for dermoscopic images.
Kawsar Ahmed et al(2013)[6]	Data Mining: Extraction of significant pattern	can efficiently and successfully predict the Skin cancer
Angel Alfonso Cruz-Roa et al(2013)[7]	visual analysis interpretation, and automatic classification of skin histopathology	Presented a natural extension of a DL architecture to do digital staining of the input images
Mahmoud Elgamal(2013)[8]	Automatic Skin Cancer images Classification	The proposed techniques performance evaluated in terms of confusion matrix, sensitivity, specificity, and accuracy.
Jun Zou et.al(2012)[9]	Oblique Incidence Diffuse Reflectance Spectrometry	it is feasible to use OIIRS as a potential tool for in vivo discrimination of malignant cutaneous melanoma from other types of pigmented skin lesions
Mariam A.Sheha(2012)[10]	Texture Analysis	Tells that combination between cooccurrence matrix and ANN is a promising technique for discrimination between malignant melanoma and melanocytic nevi dermoscopy images.

Table 1 Contd.,		
Alexandros Karargyris et.al(2012)[11]	An Advanced image-Processing Mobile Application	This application we tried to emphasize and showcase the tremendous potentials new mobile technology offers.
Charalampos Doukas et.al(2012)[12]	Mobile Technologies and cloud platforms	the Cloud infrastructure for on-line storage, continuously improving the classification model and providing accurate characterization results in various mobile platforms
E. Barati, M. Saraee etal(2011)[13]	Data Mining Approaches	Finding association rules between different features of skin cancer images., Discovering most significant risk factors for skin cancer
Suhail M. Odeh(2010)[14]	AdaptiveNeuro-Fuzzy Inference System (AnFis) Algorithm	this classification method showed that by using ANFIS, produces better result than with other algorithms for diagnosis systems, in the field of biomedical studies.
Radu Dobrescuet.al(2010)[15]	Medical images classification	The experimental results for the test images database worked with excellent results, the errors in retrieving were very few or not at all.
Gabriella Fabbrocini et.al(2010)[16]	Epiluminescence Image Processing	Describes an experimental automated diagnosis setup of melanocytic skin lesions through an image processing methodology.

Skin cancers have rising incidence worldwide since the last few decades [17]. Overall incidence of cutaneous malignancies is lower in Indian population due to increased melanin content of Indian skin and latter provides protection against ultraviolet radiation, which is the single most important risk factor for melanoma [18]. Though exact incidence of skin cancers in India is not known, their overall incidence has increased and NMSCs are encountered more frequently as compared to melanoma. In dark skin, SCC has been reported to be most common skin cancer and various studies from India have reported SCC to be most prevalent skin cancer [19].

PROPOSED WORK

Image pre-processing is an important step of detection so as to get rid of noises and enhance the standard of original image [21]. It needed to be applied to limit the search of abnormalities within the background influence on the result [22]. the most purpose of this step is to boost the standard of skin cancer image by removing unrelated and surplus elements within the back ground of image for more Process[23]. big choice of preprocessing techniques will greatly improve the accuracy of the system [24]. the entire framework of techniques followed in preprocessing stage of medical image process is illustrated in Figure. 1.

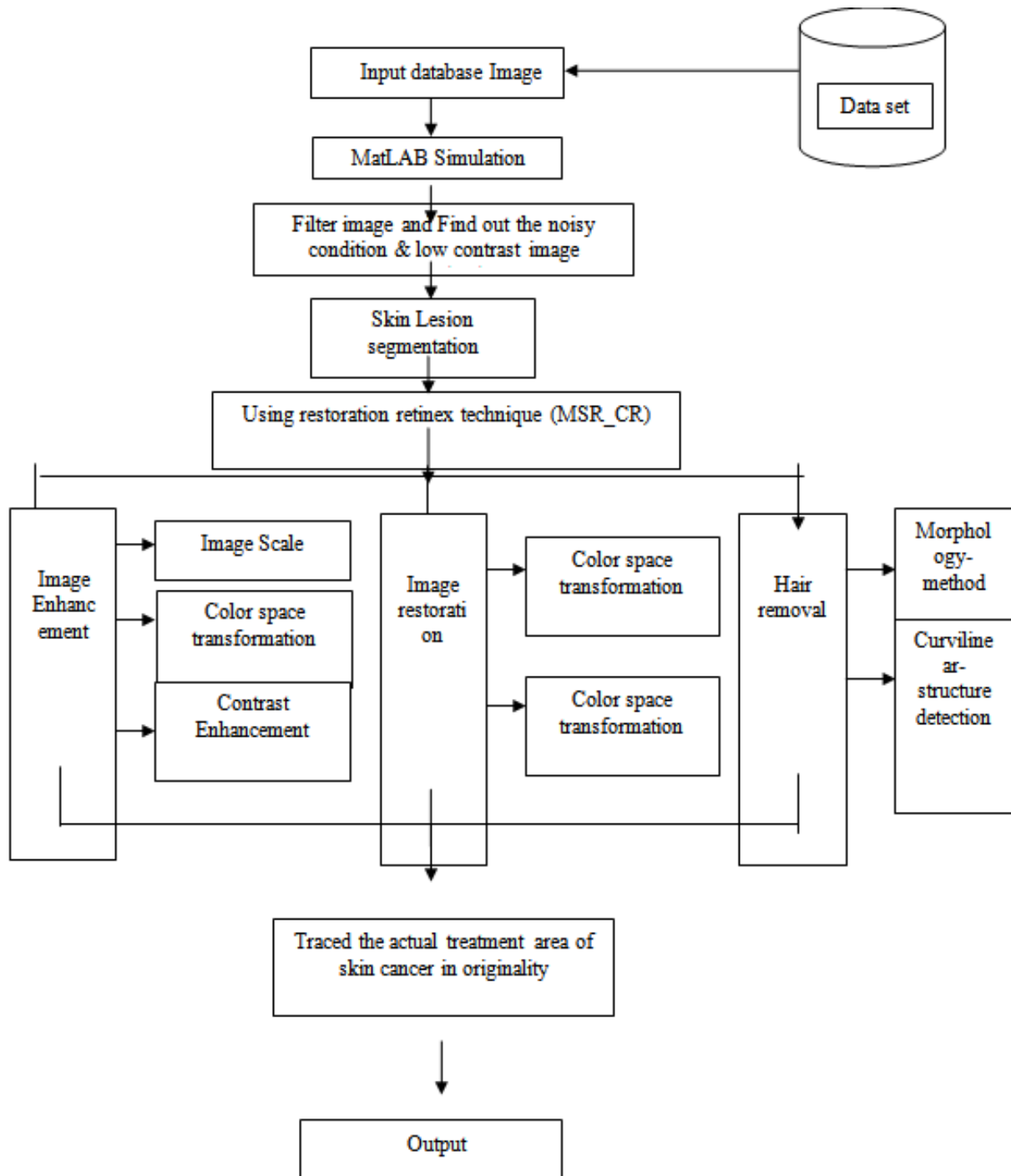


Figure 1: Flow Diagram of Image Pre-Processing is an Essential Step Skin Cancer System

RESULTS ANALYSIS

The proposed enhancement scheme is simulated on standard color images such as hospital and also on few skin cancer images [25]. We acquire the image from any external source like digital camera medical equipment etc. Then some possibility occurs for images degradation which causes features cannot be calculated more precisely [26]. Low contrast images were subjected to the retinex based enhancement techniques i.e. MSRCR and SSR. It was observed experimentally that SSR scheme is able to enhance to a much better extent than MSR [27]. The image results obtained using SSR contains

much higher image details such as edges and color information are preserved even under noisy conditions [28]. Since there is no standard objective criteria for comparing the results subjective results are presented below.

CONCLUSIONS

The medical profession mentions the increasing epidemic of skin cancer but the unique nature of the visibility and accessibility of the skin allows easy and rapid assessment of potentially malignant lesions [29]. The only tools required are clinical acumen and a through knowledgeable approach. If more medical professional practice these strategies regularly and routine, a reduction in this epidemic is certainly an achievable goal [30].

FUTURE WORK

A Proposed work used retinex theory it is done by simulation process with using of matlab. Therefore, in future it develops of multi-scale retinex with color restoration (MSR-CR) technique is used for skin cancer measurement.

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