FINAL YEAR PROJECT REPORT

SKIN CANCER DETECTION USING DEEP LEARNING

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

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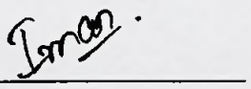
DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : 

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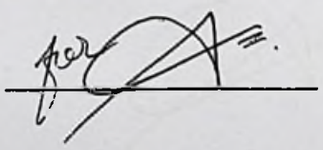
Signature : 

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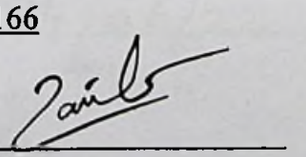
Signature : 

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ABSTRACT

In healthcare, including dermatology, Artificial intelligence is widely used. One of the subfields of AI that involves statistical models along with algorithms that learn progressively from any given dataset to predict the characteristics of the new samples and achieve the desired goal is Machine learning. However, there is a very significant role of ML in detecting skin cancer, but the dermatology skill lags behindhand radiology in terms of Artificial intelligence acceptance. With the rapid spreading, use, and development of technologies, Artificial intelligence has become extensively accessible even to the overall people. People can use Artificial intelligence in initial skin cancer detection. E, g. using Deep Convolutional Neural Networks can help develop any system that can be able to evaluate images of the skin for the skin cancer diagnoses. Hence, in this article, we present a completely automated system of skin cancer detection through lesion images. We have used transfer learning algorithms like MobileNetV2, VGG16, and InceptionV3. Our models are designed into multiple phases including data collection, augmentation, model building, fine-tuning, and finally prediction. We have presented a comparison of these three models. MobileNetV2 model with fine-tuning gives higher accuracy of 99%. Finally, we will make an android app for our MobileNetV2 (Fine-tuned model) to test our results.

CHAPTER