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The Analysis of Plants Recognition Based on Deep Learning and Artificial Neural Network

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Abstract: ***Classification and identification of plants are helpful for people to effectively understand and safeguard plants. The leaves of plants are the most important identifying organs. With the development of artificial intelligence and machine vision technology, plants leaf recognition technology based on image analysis is used to ameliorate the knowledge of plant classification and protection. Deep learning is the condensation of deep neural network learning method and belongs to neural network structure. The main content of this paper is to extract plant leaf features and identify plant species based on image analysis.***

Keywords: Plant disease recognition, deep learning, feature extraction, ANN, fuzzy logic

I. INTRODUCTION

The classification of plants is veritably important in grouping plants into different species and classes based on different classifiers or orders. It transfers plants having common properties into classes. Also, the classes are also divided into sub-classes and types to separate among the elements of the class. This classification is truly important to help scientists to study the common actions and properties of the plants. Especially the plants used in the drug or medical plants. The classification of plants is veritably important in grouping plants into different ranks and classes based on different classifiers or orders.

II. PROPOSED SYSTEM

Through the analysis of the generality and principle of image processing technology, the edge segmentation method in plant image processing is introduced. In the experimental part, through assaying the performance parameters of the image structure ahead and after image segmentation, the comparison results of image segmentation filtering optimization simulation.

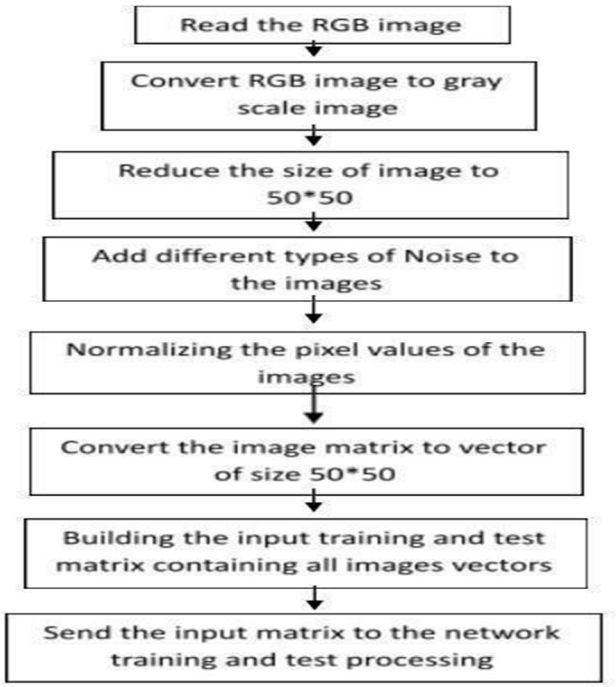


FIG.1 Architecture of the proposed system

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III. IMPLEMENTATION

The procedures were used to take out of the detected effects from the captured image is easy way with using shapeless suchlike segmentation. After that reused image variant texture and color features are uprooted. In the end, the characteristic values are fed as input to aid Vector Machine classifier, and also permit us to truly identify the insects and leaves. The first step is an important in identification of insects to find the corresponding to result problem, in the coming time to discover the different kinds of insects a single advanced system. In all plant leaf infection, Fungal reasoned with fungus some of them in show figure below Late scar reasoned by the fungus Phytophthora infesters.

IV. RESULTS

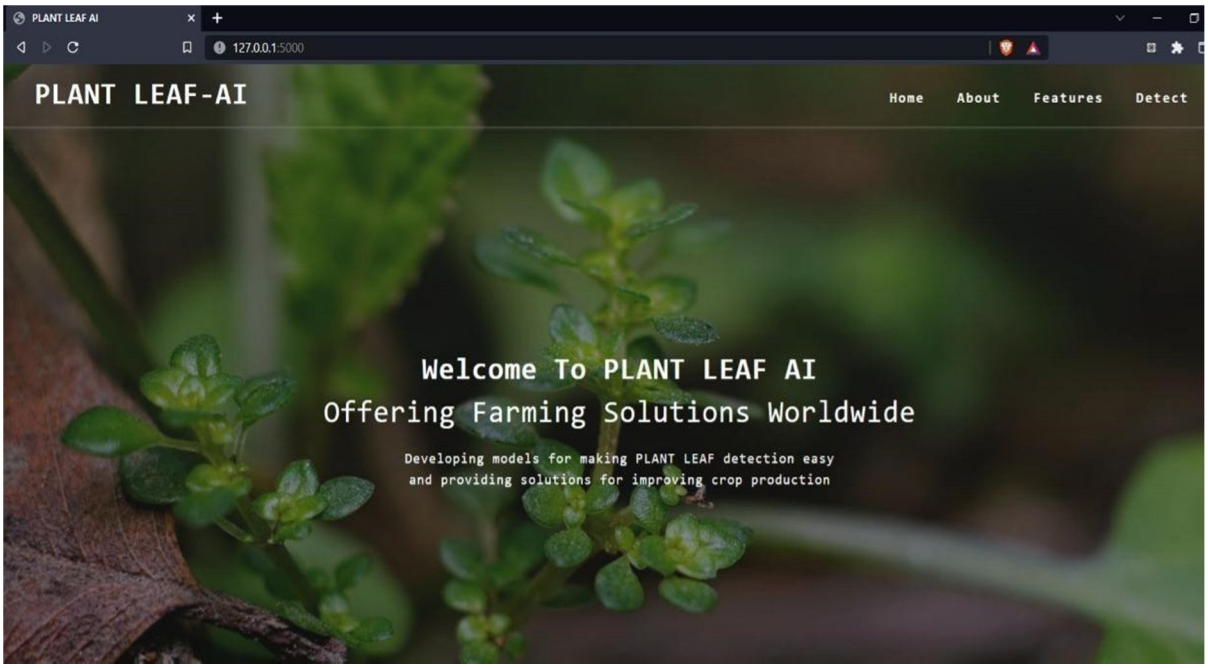


Fig. 2 Plant Leaf detection welcome page

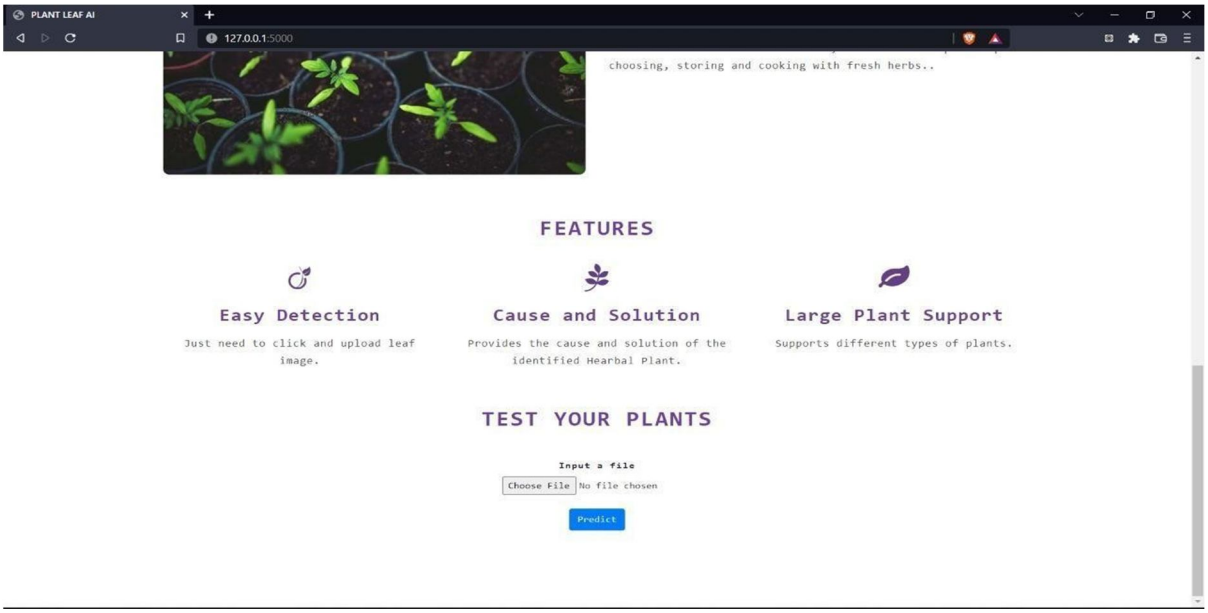


Fig. 3 Features of Detection

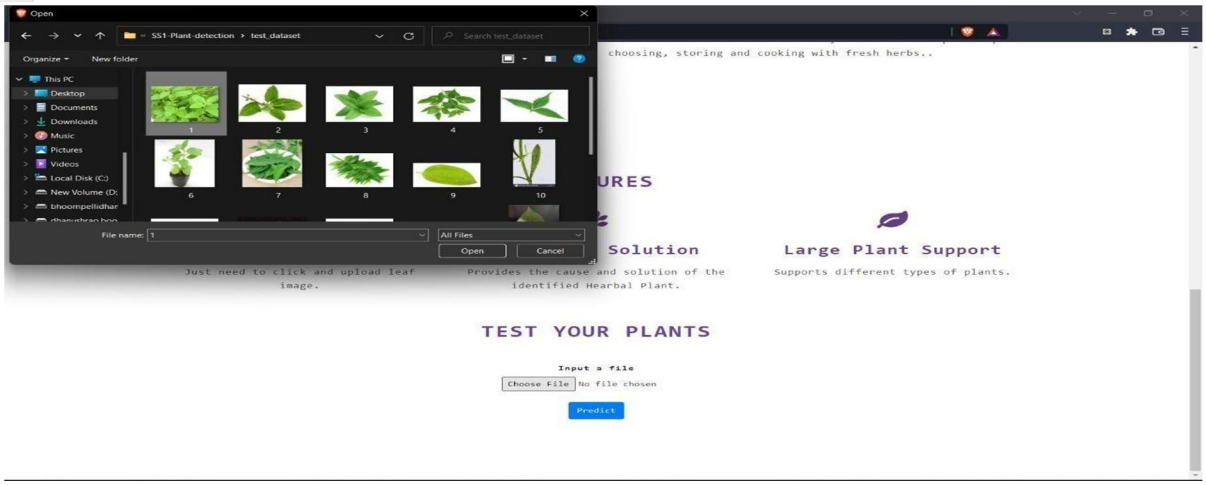


Fig. 4 Test your Plants

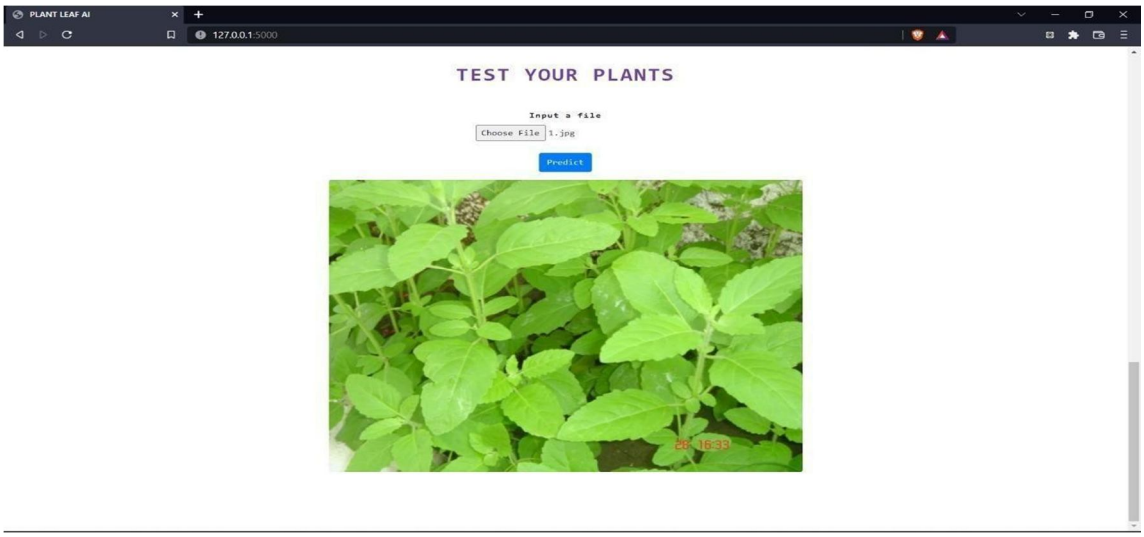
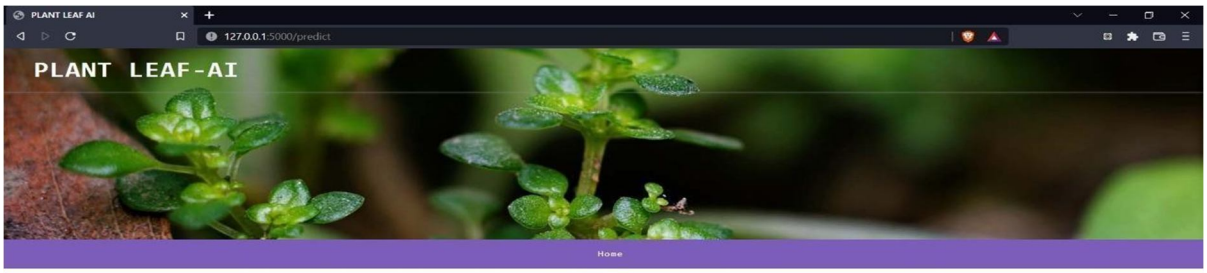


Fig. 5 Leaf image 1



Result

Bael medcinal uses: reduce cholestrol, good for digestion

Fig. 6 Result 1

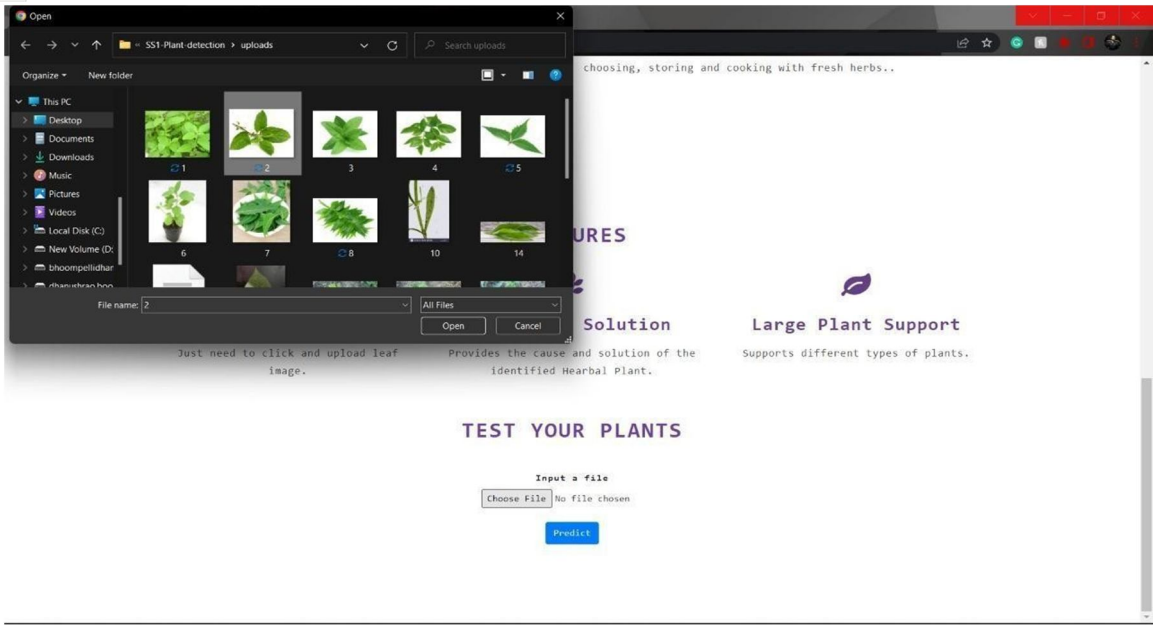


Fig.7 Testing of plant 2

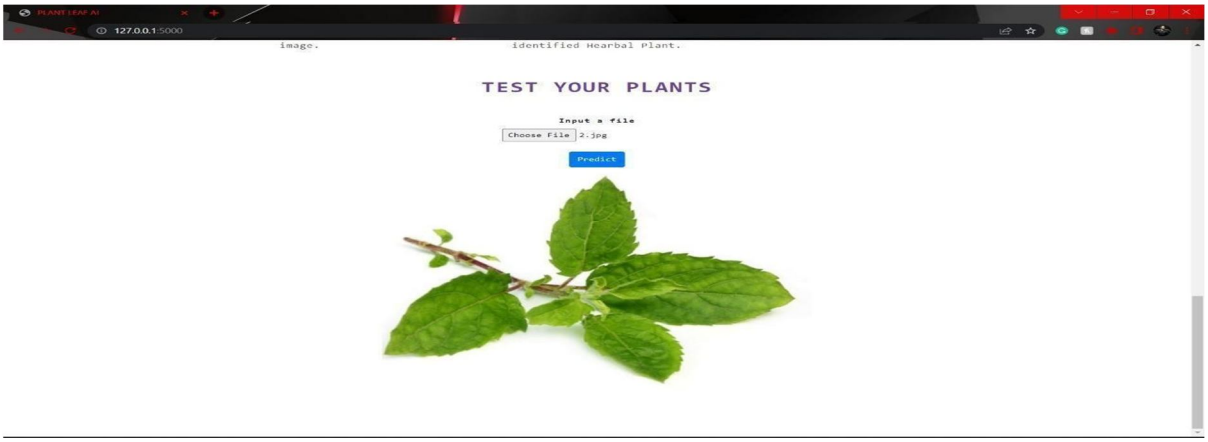


Fig 8 Result 2

V. CONCLUSION AND FUTURE SCOPE

Leaves recognition has been talked over in different scientific papers and reaserches. It can contribute strongly in the science of plants classifiaction. This work has been carried out in the goal of prolusion of leaves identification or classifiaction using ANNs. The neural networks have proved their capability to give high effectiveness in different operations. A leaf recognition process must argue two introductory points; the abecedarian of the most important special features of the leaf, and the recognition of these leaves or the classification of them. In neural networks, the networks tries to classify the sets of leaves based on their color attention without doing any mathematical or statistical studies. From the trials carried out in this thesis and the results attained we conclude that the use of the neural network for leave recognition and plants classification was successful.

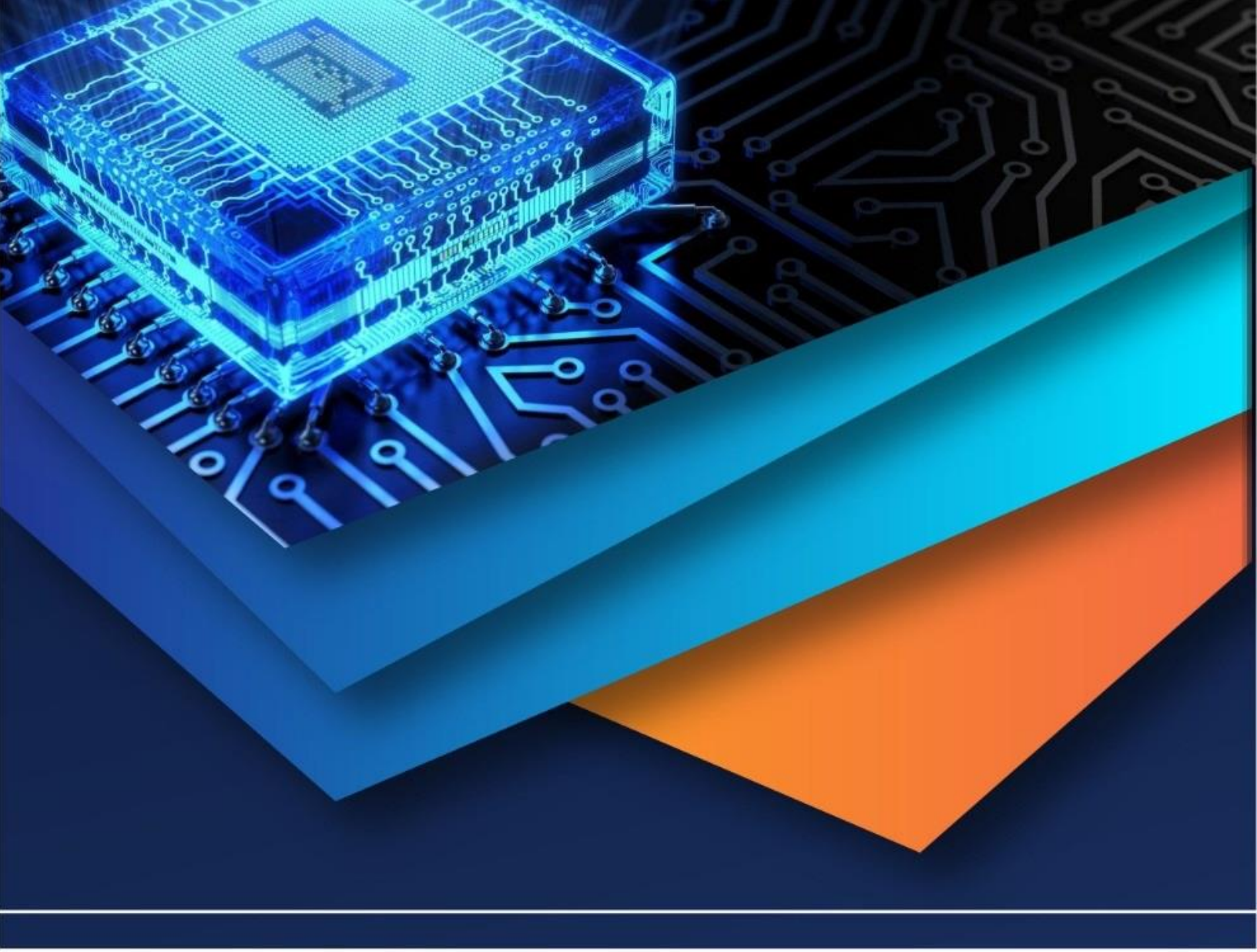
VI. ACKNOWLEDGEMENT

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