

Flora Detection System

DEVISETTY DAKKAN SAI NATH¹, D SAI KUMAR², B VENKATA SAI TEJA³, DHANUSH T⁴, DR. DATTATREYA P M⁵

^{1, 2, 3, 4, 5} Atria Institute of Technology, Visvesvaraya Technological University, India.

Abstract— *The proposed methodology facilitates in identity of manufacturing unit grievance and affords treatments that may be used as a protection medium towards the grievance. The database attained from the Internet is duly insulated and the extraordinary manufacturing unit species are connected and are renamed to shape a right database additionally advantage test- database which includes colourful manufacturing unit situations which might be used for checking the delicacy and self-assurance function of the design. additionally, the use of schooling records we can teach our classifier and additionally affair may be prognosticated with most excellent delicacy. We use trouble Neural Network (CNN) which accommodates of various layers which might be used for vaticination. A prototype drone version is likewise designed which may be used for stay content material of massive agrarian fields to which a excessive decision digital digicam is hooked up and could seize snap shots of the stores for you to act as enter for the software program, grounded of which the software program will inform us whether or not the manufacturing unit is wholesome or not. With our regulation schooling version, we have got completed a delicacy function of 78. Our software program offers us the call of the manufacturing unit species with its self-assurance function and additionally the treatment that may be taken as a cure.*

I. INTRODUCTION

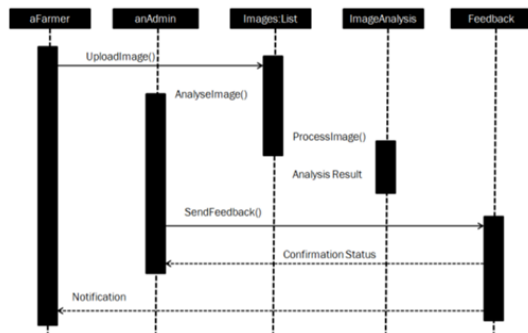
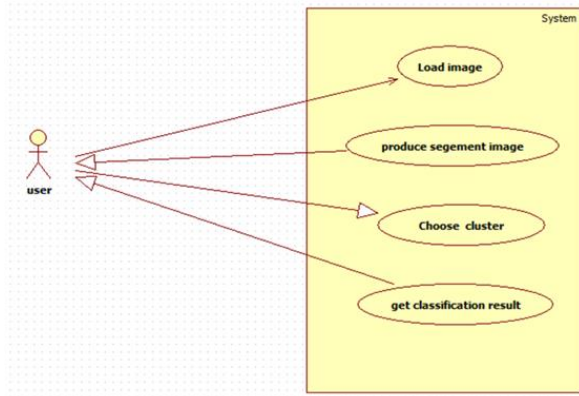
Ayurveda is the ancient Indian tool mending the use of medicinal shops available naturally with inside the Indian key, moreover known as due to the fact the mama of mending trades. History says that Ayurveda began out similarly than times with inside the beyond and end up superior with the useful resource of the usage of ancient Indian pundits like, Chakra, Sushruta and Vagbhata. Acharya Charaka has said that each one sauces on earth consists of

medicinal values, curing the conditions and moreover teaches us a manner to balance of our body, revel in of organs, mind and soul. According to World Health Organization (WHO), sixty 5 to 80 of global wide population presently uses medical shops as remedies for colorful conditions (12). Medicinal shops are becoming extinct and scarce due to environmental reasons and a lack of awareness about them among mortal humans. Botanists use natural traits to identify medicinal businesses. This is extended approach and consumes similarly time to end up aware about shops species because of the truth one production facility may additionally moreover have a comparable form of morphological features with a few different production facility. Incorrect identification will produce a terrible print about Ayurvedic capsules and produce unanticipated side gadgets in mortal beings. It's touchy for a person to flash once more names of every medicinal production facility eventually it's miles veritably critical essential to make an automatic identification and bracket tool for lesser benefit. The cause of automated identification and bracket of medicinal shops is to teach and offer correct information to now no longer unusual place people and growers, that lets in you to help to increase the civilization of medicinal shops. This tool moreover gives medicinal facts statistics and species database to the suppliers, agents, drugstore scholars, pharmaceutical companies, exploration scholars, Ayurveda interpreters, herbal production facility experimenters, botanists and to the ornamental assiduity. Shops are linked grounded on leaves, flowers, dinghy, seed, fruits, roots, stem and exceptional parameters like height, region of its boom and environmental factors. For identification of shops numerous authors keep in mind quality leaves of the shops, because of the truth leaf are 2-D nature and are available at all the time (26). But a good deal much less exploration is finished in identification of medicinal shops the use of flower and fruits/ seeds because of the truth they will be third-dimensional in

nature and available quality mainly seasons. This paper will offer brief compare about medicinal shops identification and bracket the use of particular generation applied in preprocessing, component shipping and bracket phases. Following section will deliver a cause of the affiliated artwork of medicinal shops identification and bracket the use of picture graph reclaiming processes, machine literacy processes and computer vision.



- Use case Diagram: Leaf identification



II. METHODOLOGY

This design of an image pattern bracket to identify different types of leaves.

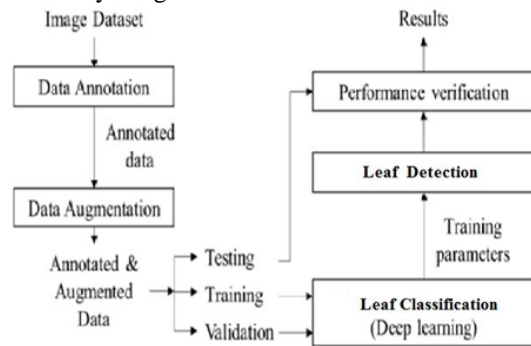
The purpose of this exploration is to find applicable medicinal values of shops grounded on splint.

The features of shape, color and texture are uprooted from these images and are classified by CNN classifier.

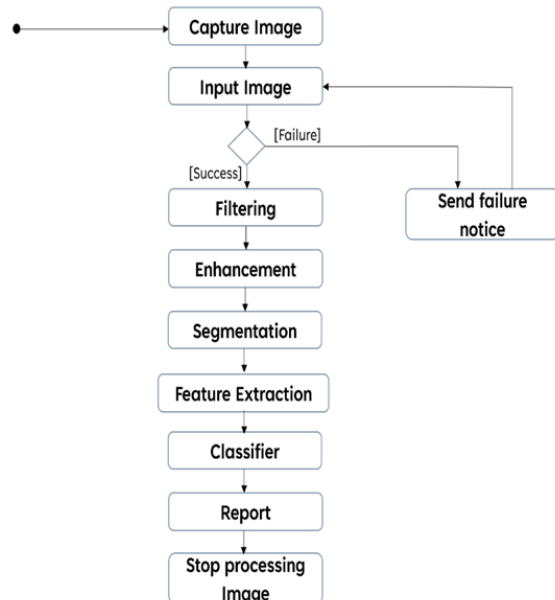
A combination of several features are used to estimate the leaf.

Based on the evaluation of the respective plant has been identified.

- Activity Diagram:



- IMAGE CLASSIFICATION



III. LITERATURE SURVEY

1. Med Leaf Mobile Application for Medicinal Plant Identification Based on Leaf Image

Author: DestaSandyaPrasvita,YeniHerdiyeni..

Techniques: Identification is based on leaf.

Advantages:

1. Med leaf will help natural reserve demesne operation to find new factory species and taxonomy, fantastic discovery and toxic factory identification and so on

2. It will help individual groups and other communities to find and uninhabited their skill to optimize the eventuality of medical shops

Disadvantages: It works only on android mobile and less accuracy.

Algorithm: Convolutional Neural Network (CNN)

1. Automatic Recognition of Medicinal Plants using Machine Learning techniques

Author: Adams Begue,VenithaKowlessur.

Techniques: Identification of leaf under laboratory setup.

Advantages: Highest precision of 90.1% was acquired from the unsystematic forest classifier.

Disadvantages: Doesn't include ornamental plants and less number of datasets.

Algorithm: Connectionist Temporal Classification (CTC).

2. Recognition of Ayurvedic medicinal Plants from Leaves. A computer Vision Approach

Author: AmalaSabu,SreekumarK,Rahul R Nair.

Techniques: Identification of med plants based on leaves.

Advantages: It is to be adequate for structuring apps for real life use.

Disadvantages: It takes only leaf as an input.

Algorithm: Convolutional Neural Network (CNN)

3. Fully automatic leaf-based plant identification, application for Vietnamese medicinal plant search

Author: Thi-Lan Le, Duc-Tuan Tran, Van-Nam Hoang.

Techniques: Among different corridor of the factory, splint is extensively used for factory identification because it's generally the most abundant type of data available in botanical reference collections and the easiest to gain in the field studies

Advantages: This project provides both results search text-based and image-based.

Disadvantages: Even improved KDES obtains the best result

IV. ADVANTAGES

Our work is to enhance the exploration in identification and bracket of medicinal shops as sauces, shrubs and trees using flowers and fruits/ seeds features including splint.

Auto detection and bracket of medicinal shops will give medicinal knowledge to common people and growers which help in adding product of similar essential shops.

This auto classification methodology helps several people in the industry like botanists, pharmaceutical companies and various Ayurveda practitioners without involving the human advices.

V. CONCLUSION

Our work is to enhance the research in detection and segregation of medicinal plants as herbs, shrubs and trees using flowers features including leaf.

Automatic identification and classification of medicinal plants will provide medicinal knowledge to common people and farmers which help in increasing production of such essential plants.

This auto classification methodology helps several people in the industry like botanists, pharmaceutical companies and various Ayurveda practitioners without involving the human advices.

REFERENCES

Research, 978-1-5090-0612-0/16/\$31.00 ©2016 IEEE.

- [1] Manojkumar P., Surya C. M., and Varun P. Gopi, "Identification of Ayurvedic Medicinal Plants by Image Processing of Leaf Samples", 2017 Third International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), pp 978- 1- 5386-1931-5.
- [2] Mr. K.Nithiyandhan and Prof.T.Bhaskara Reddy, "Analysis of the Medicinal Leaves by using Image Processing Techniques and ANN", Vol 8, No. 5, ISSN No. 0976-5697, May/June 2017.
- [3] Adams Begue, VenithaKowlessur, FawziMahomoodally, Upasana Singh and Sameerchand, "Automatic Recognition of Medicinal Plants using Machine Learning Techniques", International Journal of Advanced Computer Science and Applications, Vol. 8, No. 4, 2017.
- [4] H. X. Kan, L. Jin, and F. L. Zhou," Classification of Medicinal Plant Leaf Image Based on Multi-Feature Extraction", Pattern Recognition and Image Analysis, Vol. 27, No. 3, 2017, pp. 581–587, 1054-6618. © Pleiades Publishing, Ltd.
- [5] Riddhi H. Shaparia, Dr. Narendra M. Patel and Prof. Zankhana H. Shah," Flower Classification using Texture and Color Features", International Conference on Research and Innovations in Science, Engineering &Technology, Volume 2, 2017, Pages 113–118.
- [6] Marco Seeland, Michael Rzanny, Nedalaqraa, Jana Waldchen, Patrick Maier, "Plant species classification using flower images—A comparative study of local feature representations", PLOS ONE | DOI: 10.1371/journal.pone.0170629 February 24, 2017.
- [7] PradeepkumarChoudhary, Rahul Khandekar, AakashBorkar, and PunitChotaliya, "Image processing algorithm for fruit identification", International Research Journal of Engineering and Technology (IRJET), Vol 4 Issue 3, e-ISSN: 2395 -0056, p-ISSN: 2395- 0072, Mar -2017.
- [8] D Venkataraman and Mangayarkarasi N, "Computer Vision Based Feature Extraction of Leaves for Identification of Medicinal Values of Plants", IEEE International Conference on Computational Intelligence and Computing