

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA CAMPUS, BELGAVI-590018



PROJECT REPORT

On

“MEDICINAL PLANT IDENTIFICATION THROUGH LEAF STRUCTURE ANALYSIS”

Submitted by

PRATHIKSHA

4AL16IS036

SANJANA SHEKHAR SHETTY

4AL16IS048

SHREESHA B

4AL16IS052

In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

INFORMATION SCIENCE AND ENGINEERING

Under the Guidance of

Mr. Manjunath H R

Senior Assistant Professor



**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING
ALVAS INSTITUTE OF ENGINEERING AND TECHNOLOGY**

Moodbidri-574225, Karnataka

2019– 2020

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MIJAR, MOODBIDRI D.K. -574225
KARNATAKA



DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING
CERTIFICATE

Certified that the project work entitled "MEDICINAL PLANT IDENTIFICATION THROUGH LEAF STRUCTURE ANALYSIS" is a bonafide work carried out by

PRATHIKSHA	4AL16IS036
SANJANA SHEKHAR SHETTY	4AL16IS048
SHREESHA B	4AL16IS052

in partial fulfilment for the award of BACHELOR OF ENGINEERING in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2019-2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

 Mr. MANJUNATH H R Project Guide	 Mr. JAYANTKUMAR A RATHOD H.O.D. Head of the Department Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225	 Dr. PETER FERNANDES Principal Alva's Institute of Engg. & Technology, MIJAR, MOODBIDRI - 574 225, D.K.
Name of the Examiners	Signature with Date	

1.

2.

ABSTRACT

Plants are an indispensable part of our ecosystem and India has a long history of using plants as a source of medicines. Since the advent of modern allopathic medicine, the use of traditional medicine declined to a considerable extent. It is necessary to classify these plants so that it would be easy to select the right plant for the medicinal preparation or to study more about its characteristics. This project proposes a computer vision approach for the recognition of Ayurvedic medicinal plant species by processing the leaf image.

The proposed system uses Herack features extracted from leaf images and the classification using Support Vector Machine classifier. This system is implemented with a python editor Anaconda both for front end and back end process. When the user uploads the leaf image he can get the name of the leaf and it classifies the leaf whether it is medicinal or not. The identification of the correct medicinal plants that go to the preparation of a medicinal product is very important in the Ayurvedic medicinal industry. The main characteristics required to identify a medicinal plant are the shape, color and texture of the leaf. The color and texture of both sides of the leaf contain deterministic parameters to identify the species. This document explores feature vectors from both the front and back of a green leaf along with morphological features to arrive at a unique and optimal combination of features that maximizes the identification rate.

A database of medicinal plant leaves is created from scanned images of the front and back sides of commonly used Ayurvedic medicinal plant leaves. The leaves are classified according to the unique characteristic combination. Identification rates of up to 99% were obtained when tested on a broad spectrum of classifiers. The above work has been extended to include dry leaf identification and a combination of feature vectors is obtained, using which identification rates above 94% have been achieved.