

# **IDENTIFICATION OF DISEASE USING FEATURES OF LEAVES IN RUBBER PLANTATION**

**(Sponsored by KSCST, Bangalore)**

## **PROJECT REPORT**

**Submitted by**

**RAMYA R. NAYAK**

**SUSHMA B.S.**

**SINDHU KASHYAP A.**

**SANDHYALAKSHMI K.**

**In partial fulfillment of the requirements for the degree of**

**BACHELOR OF ENGINEERING**

**IN**

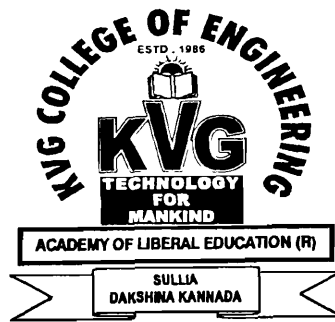
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**(Visvesvaraya Technological University)**

**Under the Guidance of**

**Mrs. M.N. BINDU B.E., M.Tech., M.I.E.**

**Senior Lecturer**



**Department of Electronics and Communication Engineering**

**K.V.G. College of Engineering**

**SULLIA, D.K. 574327, KARNATAKA**

**2009-2010**

# **ABSTRACT**

**There are many diseases in plants that can be identified through changes in their leaves. Our project aims at building a technique with the help of image processing to identify such diseases and also provide the user with the details which comprises of the symptoms, causes, precautions and remedies for the identified disease. This project aims to help building coffee and rubber growers.**

**The digital image of leaf is identified based on features such as statistical and moment invariants. Moment based descriptors can be defined to be independent of scaling, translation and rotation. Classification into healthy and unhealthy leaf is based on combined color and shape features. Color features include RGB and HSI model. The extracted features of the leaf are used to train the developed feed forward neural network model using back-propagation learning algorithm. The statistical features and moment invariant features after normalization are given to the neural network for training purpose. The trained network is used to identify the unknown leaf shape type. The back-propagation neural network model is used to classify a leaf into healthy and unhealthy based on both color and shape features. The developed neural network gives good accuracy for identification and classification.**