# Monitoring Herbal Medicinal Plant and Update over Secure Cloud

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**Abstract**— Good Practices for plant Identification for the Herbal Industry is to develop effective, practical tools for industry members to accurately identify medicinal herbs. The practice will also establish the groundwork for effective traceability of raw materials starting at the production level. In this research herbal medicinal plants are identified using artificial neural network and stored it in cloud. Encryption and decryption methods are used for secure communication.

**IndexTerms**— ANN, Cloud, Decryption, Encryption, Plant.
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## I. INTRODUCTION

Herbal medicine and their preparations have been widely used for the thousands of years in developing and developed countries. Herbal medicines are the synthesis of therapeutic experiences on generations of practicing physicians in indigenous systems of medicine, for over hundreds of years. They are also in great demand in the developed world all health care problems because of their efficacy, safety and lesser side effects. India is sitting on a gold mine of well-recorded and well-practiced knowledge of traditional herbal medicine. The Indian systems of medicine i.e., Siddha, Ayurveda & Unani mainly encompass herbal medicines along with herbo-mineral formulations. The preparations are either as single herbs or as collections of herbs in composite formulae. This may be the main reason why quality control of oriental herbal drugs is more difficult than that of western drug. The quantity and quality of the safety and efficacy data on traditional medicine are far from sufficient to meet the criteria needed to support its use world-wide. This review article, discusses these constraints and challenges in relation to conservation, science and technology, use of herbal medicine, drug production sector, safety and efficiently and also the opportunities of herbal medicine in local and global level.

## II. PROPOSED WORK

Identifying herbs is challenging, especially if your experiences are limited to only dried culinary herbs. With practice, your powers of observation will sharpen with a few basic tips. The visual identity of fresh herb plants is determined by each plant's leaves, blossoms and stems. When familiarizing yourself with the sight of herbs, use your sense of smell and taste to identify each plant. You are probably familiar with the scent of common kitchen herbs, although you might not identify with their appearance. Your nose, sense of taste and memory are valuable clues in identifying herbs. Neural networks are made up of multiple layers of neurons or computational units. All the neurons are interconnected with each other. The inputs fed on the input layer, propagates through the network in forward direction through the hidden layers to give an output. Output signal is calculated using weights, bias and activation function. The neural network is trained using back propagation rule by back propagating the errors and changing weights of nodes. The error is the difference between the outputs obtained and desired output. The following are the algorithms used for calculating various parameters involved in training a neural network

### Equations

The total input for a given neuron is given by:

$$s_k = \sum_j w_{jk} y_j + \theta_k$$

Where $s_k$ is the total or effective input for unit $k$, $w_{jk}$ the weight of the connection, $y_k$ is current activation and $\theta_k$ is the bias. Activation function $A_f$ takes the input and current activation and gets the new activation value during learning by:

$$y_k(t) = A_f\left(y_k(t-1).s_k(t-1)\right)$$

The value of activation functions are generally limited to 0, 1 using a threshold function. Most commonly used is sigmoid function.

$$y_k = A(s_k) = \frac{1}{1 + e^{-s_k}}$$

The spline-based NN is built using generalized sigmoidal (GS) neuron, which contains adaptive parametric spline activation function. The spline activation is easy to adapt and implement. It also retains squashing property of the sigmoid and smoothing characteristics. MLP built using spline activation function are universal approximators and have smaller structural complexity.

*Figures*

"**Fig.1**". Herbal Leaf Structure



"**Fig.2**". System Architecture
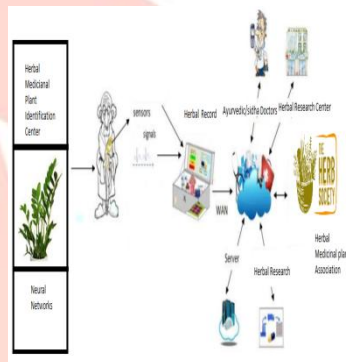
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