

Home Garden-based Ayurvedic Plant Identification System Using Convolutional Neural Networks, A Review

NTD Dharmasiri^{1#} and WKMS Ilmini¹

¹Faculty of Computing, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[#]37-se-0014@kdu.ac.lk

Abstract

Ayurveda, one of the oldest medical systems in the world relies on natural ingredients from plants to treat various illnesses. Since Sri Lanka is blessed with abundant plant resources, there is a need to identify Ayurvedic herbs for medicinal purposes correctly. Unfortunately, many citizens, especially the younger generation, are unfamiliar with these valuable plants. Additionally, the country is facing an economic crisis, leading to shortages of imported medicines. To address these challenges, a system is proposed to identify Ayurvedic plants available in-home gardens, enabling the public to use them as remedies. While plant identification systems have been studied extensively, there is limited research on home garden-based Ayurvedic plants. This research aims to review existing plant identification systems, the technologies they employ, and their limitations. The study explores the feasibility of using Convolutional Neural Networks, the latest technology, for plant identification. By comparing the accuracy and efficiency of each method, the goal is to select the most suitable approach to implement a home garden-based Ayurvedic plant identification system.

Keywords: *Ayurvedic plant identification system, Convolutional Neural Networks, Machine learning, Feature extraction*