



**INFORMATICS
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In collaboration with

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**Identify Maturity of Cinnamon Trees Using Images Processing
(Cannella Assist)**

Final Project Report by

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ABSTRACT

Cinnamon planting is the primary source of income for several regions in Sri Lanka. After locating grown cinnamon trees, the most difficult aspect of the cinnamon harvesting procedure is peeling cinnamon. To identify matured trees using the old approach, expert expertise is required. Otherwise, it may result in cinnamon waste by removing young cinnamon trees. Cinnamon, also known as *Cinnamomum Verum*, is the second-largest export in Sri Lanka, generating considerable foreign exchange. Sri Lanka is the only country that exports true cinnamon to the global market, true cinnamon has a high demand because its aroma, taste, and health benefits. 90% of the worldwide demand for cinnamon is supplied from Sri Lanka. After eliminating any undesired branches from the gathered stick, the cinnamon bark is peeled off. This is referred to as the peeling process. The cinnamon quills are then created by combining the cinnamon bark, and the interior of the quill is filled with smaller sections of the quill that cannot be rolled.

This study focuses on developing an automated method to detect matured cinnamon trees utilizing image processing techniques that may be utilized to identify matured cinnamon trees without the need for expert knowledge. All the trees chosen for this research are more than three years old. The key parts of this research include image pre-processing, method selection, and the usage of a convolutional neural network to extract data from leaves, followed by prediction of maturity level.

Keywords – Cinnamon maturity detection, convolutional neural network, Image Processing, cinnamon leaves.