NORTH SOUTH UNIVERSITY

Plant Leaf Disease Detection and Identification Using Different Deep Learning Techniques

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Declaration

It is hereby acknowledged that:

- No illegitimate procedure has been practiced during the preparation of this document.
- This document does not contain any previously published material without proper citation.
- This document represents our own accomplishment while being Undergraduate Students in the **North South University**

Sincerely,

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Approval

I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation.

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Abstract

In this paper, we will be discussing about disease detection using four types of Deep Learning approach.Our research was based on 11 types of plant leaves and their diseases.The main motto of our project was to detect diseases of leaves.Here we merged two dataset that includes not only tea leaf illnesses but also cherry, blueberry, maize, apple, peach, potato, tomato, soybean, strawberry, and raspberry leaves. As it is a supervised learning-based project, we had to build a model to which we introduced our dataset and successfully achieved intended results. From four of the methods, we learned in our research throughout the course period, practically we built a CNN (Convolutional Neural Network) based model. And then we tried to train few pre-tarined models with our custom dataset. These models include, ResNet-50, Inception V3 and ResNet-152V2. We achieved the best result with our CNN model starting from 92% to a maximum of 96%. The lack of permission to access several revolutionary papers has made it harder for us to maximize our potential in collecting knowledge and schemes to achieve an impeccable overall outcome and declare our model to be accurate. Our dataset has not been used in any of the papers we have found.Therefore, a clear comparison between our created model and paper's models were quiet difficult for us to present to our readers. A thorough reading of this paper will clarify our approaches and results.