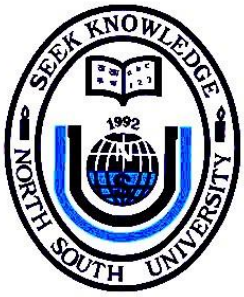
Department of Electrical and Computer Engineering
North South University



Senior Design Project

Plant Disease Detection and Solution for Rural Farmers Using Computer Vision, Cloud Computing and Android Platform

Mohammad Rashedul Alam **ID # 1511384042**

Sakib Mukter **ID # 1520268042**

Aminul Islam **ID # 1520523042**

Faculty Advisor:

Md. Shahriar Karim

Assistant Professor

ECE Department

Spring, 2019

Declaration

This is to declare that no part of this report or the project has been previously submitted elsewhere for the fulfillment of any other degree or program. Proper acknowledgement has been provided for any material that has been taken from previously published sources in the bibliography section of this report.

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Mohammad Rashedul Alam
ECE Department
North South University, Bangladesh

.....
Sakib Mukter
ECE Department
North South University, Bangladesh

.....
Aminul Islam
ECE Department
North South University, Bangladesh

Approval

The Senior Design Project entitled "**Plant Disease Detection and Solution for Rural Farmers Using Computer Vision, Cloud Computing and Android Platform**" by Mohammad Rashedul Alam (ID#1511384042), Sakib Mukter (ID#1520268042) and Aminul Islam (ID#1520523042) has been accepted as satisfactory and approved for partial fulfillment of the requirement of BS in CSE degree program on May, 2019.

Supervisor's Signature

Md. Shahriar Karim
Assistant Professor
Department of Electrical and Computer Engineering
North South University
Dhaka, Bangladesh.

Department Chair's Signature

Dr. K. M. A. Salam
Professor & Chair
Department of Electrical and Computer Engineering
North South University
Dhaka, Bangladesh.

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Abstract

Bangladesh is a densely populated country with considerably low per capita arable land, which makes a daunting task to grow sufficient food grains for about its 160 million people. Diseases prevalence and the lack of close monitoring often results in crop loss as high as 30% in some cases. For instance, rice production reduces by about 10% because of diseases, whereas potato and tomato production decreases by 37% and 43% respectively because of leaf infection. Early and accurate detection of these diseases can prevent a large-scale yield loss. However, detection of these diseases is hard for farmers without the direct help of skilled people. To provide the farmers with the initial information, we develop a voice assisted mobile app that can predict a possible set of diseases from the images of leaf-infection. The App is optimized against low-resolution images and includes voice assistance at its every step to ensure usability for the farmers, who are generally are uncomfortable with digital platforms. Also, the App also suggests possible remedies for the affected crops, and the information of sellers and distributors of pesticides, fertilizers, and other relevant commodities. Together, this App attempts to increase crops yield and is expected to act as the bridge between the sellers, distributors and the farmers living in the farthest corner of our country.