Department of Electrical and Computer Engineering
North South University

Senior Design Project

Pathology Assistant:

A web application that detects malaria infected red blood cells in real-time

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Faculty Advisor

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Spring, 2019

DECLARATION

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

<u>Students' name & Signature</u>

1. **Fariha Islam**

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2. **Porsia Tithi**

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3. **Biswas Nazimuddin Nadim**

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APPROVAL

The capstone project entitled "**Pathology Assistant: A web application that detects malaria infected red blood cells in real-time**" by **Fariha Islam (ID#1511602042), Porsia Tithi (ID#1420674042),** and **Biswas Nazimuddin Nadim (ID #1410291642)** is approved in partial fulfillment of the requirement of the Degree of Bachelor of Science in Computer Science and Engineering has been accepted as satisfactory.

Supervisor's Signature

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ACKNOWLEDGMENT

First of all, we are grateful to the Almighty for giving us the ability and patience to complete the project and the report successfully.

The Capstone project has been a major breakthrough to our skills development and helped us learn different aspects of working in a team and honing our talents in different fields.

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ABSTRACT

Bangladesh is considered as one of the malaria endemic countries in South Asia hence detecting it at an earlier stage and being able to keep records can save life. The Pathology Assistant is a web app built for Pathologists to be able to create patient profile, upload red blood cell images which is stored in the database and run through a neural network. The neural network can perform binary classification which can tell the pathologist whether the red blood cell is malaria infected or not. This way the pathologist can keep track of the patients condition and upload more images time to time to check the improvements of the patients condition in real time.