A Project Report

on

**EXAMINING DIAGNOSTIC CAPABILITIES OF**

**COVID-19**

Submitted in partial fulfilment of the requirements for the award of

# BACHELOR OF TECHNOLOGY

In

# INFORMATION TECHNOLOGY

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**ABSTRACT**

COVID-19 cases have shown a rising trend in the country primarily due to the emergence of mutant variants of omicron, which have a high degree of transmissibility. Aggrandized by normal routine and relaxation of mask mandate and social pandemic norms in many states, the ability of mutant variant increases. Raising cases of Covid-19 and shortage of durable and less time-consuming testing devices mark the new beginning of X-ray analysis using machine learning techniques. The emergence of the Covid-19 virus has a hazardous impact on human life. Therefore, it is need of time to find an effective and faster way to detect the Covid-19 virus in the patients. The standard RT-PCR (Real-Time reverse transcription–Polymerase Chain Reaction) method is considered the reference method. This project aims to develop an automated system that analyses X-ray images using CNN for a robust and efficient way to diagnose Covid-19 infection. The developed model preprocesses the X-ray image using image processing techniques. Later the image segmentation is done along with image transformation and to classify it using deep learning. The utilized model of CNN returns a good classification accuracy near 90%. The convolution neural network, we have designed for our model uses the standard dataset COVID-19 Radiography Dataset, from a team of researchers from Qatar University, Doha, Qatar, and the University of Dhaka, Bangladesh.

## PROJECT GUIDE SIGNATURE

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