VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belgaum - 590 018

A Project Report on

"CROSSOVER RECOGNITION OF LUNG INFECTIONS WITH CHEST X-RAY IMAGES UTILIZING CNN"

Submitted in the partial fulfilment of the requirements for the award of the Degree of

Bachelor of Engineering in Computer Science and Engineering

submitted by

LIKHITHA B H [1DB19CS080]
NEHA R RAO [1DB19CS095]
RUCHITHA M [1DB19CS165]
LATHARANI [1DB20CS405]

Under the guidance of

Prof. Vishesh J

Assistant Professor

Department of CSE

Don Bosco Institute of Technology

Mysore Road, Kumbalgodu, Bengaluru-560074

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the project entitled **"Crossover Recognition of Lung Infections with Chest X-ray Images utilizing CNN"** is carried out by **Likhitha B H[1DB19CS080], Neha R Rao [1DB19CS095], Ruchitha M [1DB19CS165] and Latharani [1DB20CS405]** are bonafide students of **Don Bosco Institute of Technology, Bangalore** in partial fulfillment for the award of the degree of **Bachelor of Engineering in Computer science and Engineering** of **Visvesvaraya Technological University, Belagavi** during the academic year **2022-23**. The project Phase report has been approved as it satisfies the academic requirements in respect of the Project Phase prescribed for the Bachelor of Engineering Degree.

Prof. Vishesh J	**Dr. K B ShivaKumar**	**Dr. B S Nagabhushana**
Asst. Professor, Dept of CSE	H.O.D., Dept of CSE	Principal, D.B.I.T

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DECLARATION

We, **Likhitha B H [1DB19CS080], Neha R Rao [1DB19CS095], Ruchitha M [1DB19CS165] and Latharani [1DB20CS405]** students of eightth semester B.E, at the department of Computer Science and Engineering, Don Bosco Institute of Technology, Bengaluru declare that the project phase entitled "**CROSSOVER RECOGNITION OF LUNG INFECTIONS WITH CHEST X-RAY IMAGES UTILIZING CNN**" has been carried out by us andsubmitted in partial fulfillment of the course requirements for the award of degree of Bachelor of Engineering in Computer Science and Engineering discipline of Visvesvaraya TechnologicalUniversity, Belagavi during the academic year **2022-23**. The matter embodied in this report has not been submitted to any other university or institution for the award of any other degree.

Place: Bangalore
Date: 06-05-23

Likhitha B H [1DB19CS080]
Neha R Rao [1DB19CS095]
Ruchitha M [1DB19CS165]
Latharani [1DB20CS405]

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We express our acknowledgement to our project coordinator **Prof. SHEEBA S, Asst. Professor, Department of Computer Science and Engineering** for extending their direction and support during the completion of project.

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Likhitha B H [1DB19CS080]
Neha R Rao [1DB19CS095]
Ruchitha M [1DB19CS165]
Latharani [1DB20CS405]

ABSTRACT

Nowadays, the COVID-19 and other chest infection diseases are growing rapidly worldwide and affecting the community. With an immense number of cases, a quick and efficient testing process is required. Healthcare systems all over the world are on edge due to the ongoing COVID-19 outbreak. The cases are increasing day by day. Governments, civil society, health professionals, and scientists have been facing a relentless fight against the pandemic of the COVID-19 disease. The early and auto diagnosis helps people to be precautious. One of the ways to combat this disease is the effective screening of infected patients. With illnesses like pneumonia and lung cancer, COVID-19 offers a comparable pattern. Even very skilled medical professionals can be misled by this, leading occasionally to a false positive result.

Integration of deep learning into radiology systems could be very helpful to suggest at the point of care, and it can enhance the quality, ease of use, and cost of chest diseases diagnosing from chest X-rays worldwide. In this regard, an image classification model can be used to detect and categorize the patient's chest X-ray (CXR) images into COVID-19, tuberculosis, pneumonia and lung cancer and is an effective alternative due to its low cost, accessibility, and quick response.

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