



## DEPARTMENT OF INFORMATION TECHNOLOGY

### B. Tech 4/4, II-SEMESTER

### II Semester 2021-22

## CLASSIFICATION AND DETECTION OF COVID AFFECTED LUNG USING DNN

### ABSTRACT

Covid-19 is one of the dangerous and life-taking diseases in the world. However, early diagnosis and treatment can save a life. Although CT scan imaging is the best imaging technique in the medical field, it is difficult for doctors to interpret and identify the disease from CT scan images. Therefore computer-aided diagnosis can be helpful for doctors to identify them accurately. Many computer-aided techniques using image processing and machine learning has been studied and implemented. Deep learning has been verified as a popular and powerful method in many medical imaging diagnosis areas. In this paper, deep neural networks DNN are designed for lung Diseases classification. Those networks are applied to the CT scan image classification task with some adjustments for the benign and malignant lung nodules. The processing part of the pulmonary nodule is decomposed into the DNN, so that different network layers can be used to obtain the characteristics of the pulmonary nodules with dissimilar sizes. The essential capability of DNN to capture the structure of the image in its feature maps. Further improvements are available in the areas where the abnormalities lie, possibly through the use of deep learning algorithm, and the versatility of an automated discovery system.

## **Course Outcomes (COs)**

### **Course Outcomes**

After completing this course, the student will be able to:

<b>CO Number</b>	<b>CO Statement</b>	<b>Taxonomy</b>
CO1	Demonstrate the technical knowledge to identify problems in the field of Information Technology and its allied areas.	Understand
CO2	Use literature to identify the objective, scope and the concept of the work.	Apply
CO3	Analyze and formulate technical projects with a comprehensive and systematic approach.	Analyse
CO4	Identify the modern tools to implement technical projects.	Evaluate
CO5	Design engineering solutions for solving complex engineering problems.	Create
CO6	Develop effective communication skills, professional behaviour and team work.	Understand

**CO-PO/PSO MATRIX:**

	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>	<b>PO 8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO 1</b>	<b>PSO 2</b>	<b>PSO 3</b>
<b>CO1</b>	3	2	1	2					3	2	2	2	3	2	
<b>CO2</b>	2	1	2	2	1				3	2	2	2	3	3	1
<b>CO3</b>	1	1	3	3	1				3	2	2	2	3	2	1
<b>CO4</b>	3	1	3	2	3				3	2	2	2	2	3	2
<b>CO5</b>	3	2	3	3	3				3	2	3	2	2	1	1
<b>CO6</b>	1	1	1	2	1				2	3	2	2	1	1	2
<b>Course</b>	2.2	1.3	2.2	2.3	1.5				2.8	2.2	2.2	2.0	2.3	2.0	1.2

PO1	Engineering Knowledge	PO7	Environment & Sustainability
PO2	Problem Analysis	PO8	Ethics
PO3	Design / Development of Solutions	PO9	Individual & Team Work
PO4	Conduct Investigations of complex problems	PO10	Communication Skills
PO5	Modern Tool usage	PO11	Project Management & Finance
PO6	Engineer & Society	PO12	Life-long Learning