

Computational Thinking with Python

(19CS201)

**COVID-19 Detection Using Convolutional Neural Networks**

(Synopsis)

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**Objective:**

To develop a Deep Learning based neural network model capable of distinguishing between healthy and COVID-19 positive patients using Chest X-ray data.

**Intro:**

In current scenario the swab is used to test for presence of COVID-19 in a person but that takes large amount of time .Our objective is to develop a **convolutional neural network based Deep Learning** model to differentiate the **COVID-19 positive** patients from the healthy patients by analyzing the **Chest X-ray data** of the patients .This will help to ease the condition in the current scenario.

**Operational Definition:**

Help to reduce the time taken in process to identify the COVID-19 affected patients.

**Resources used:**

**Python**

Base programming language used for creating the Deep Learning model.

**TensorFlow, Keras, OpenCV**

Open source Machine and Deep learning libraries for creating a NN (Neural Network) and for computer vision.

**Numpy and Matplotlib**

Open source libraries for mathematical calculations and visualization of data.

**Covid-19 Chest X-ray Radiology Dataset**

Kaggle database used for training and testing the model.