Project Description – COVID-19 Image classificationData Description:Provided with a training set and a test set of images of 3 classes. Each image has a filename that is its unique id. The dataset comprises 3 classes: COVID-19, Viral Pneumonia, and Normal. The goal of the project is to create a classifier capable of determining the class of the X-ray image.  
Dataset:• testimage.npy  
• testLabels.csv  
• trainimage.npy  
• trainLabels.csv  
  
Context:• differentiate an X-ray image of a normal person from an unhealthy one  
• The ability to do so effectively can mean better diagnosis.  
Objective:• The goal of the project is to create a classifier capable of determining the class of the X-ray image.

Main Stages:• Pre-processing of image data.  
• Visualization of images.  
• Building CNN.  
• Evaluate the Model.  
Steps and tasks:1. Import the libraries, load dataset, print shape of data, visualize the images in train and test set.   
2. Explore the data  
3. Data Pre-processing:   
 a. Gaussian Blurring.   
 b. Visualize data after performing the Gaussian blurring.  
 c. Normalization of data.  
4. Make data compatible:   
 a. Reshape data into shapes compatible with Keras models.  
 b. Convert labels to one hot vectors.  
5. Building CNN:   
a. Define layers.  
b. Set optimizer and loss function. ( Adam optimizer and categorical cross-entropy.)  
6. Fit and evaluate model and print confusion matrix.   
7. Visualize predictions for x\_test[2], x\_test[3], x\_test[33], x\_test[36], x\_test[59].