

CT Scan Covid-19 Diagnosis Capstone Project

Screenshots

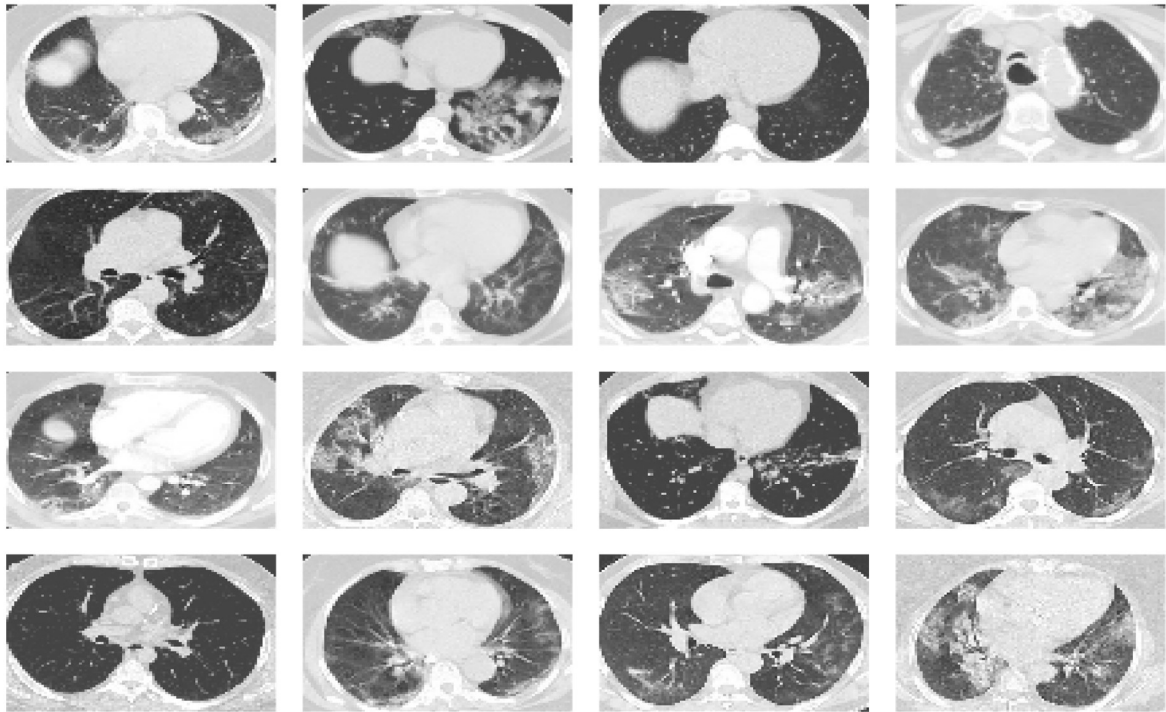


Fig.1 Original Images

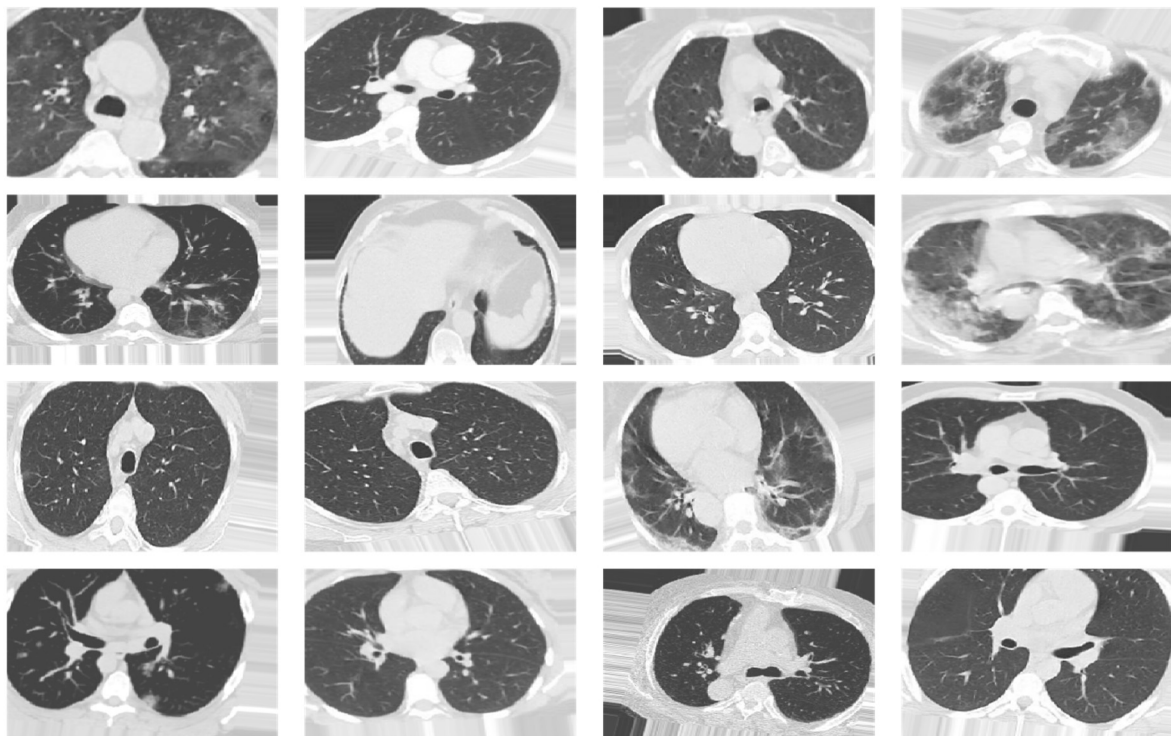


Fig 2. Augmented Images

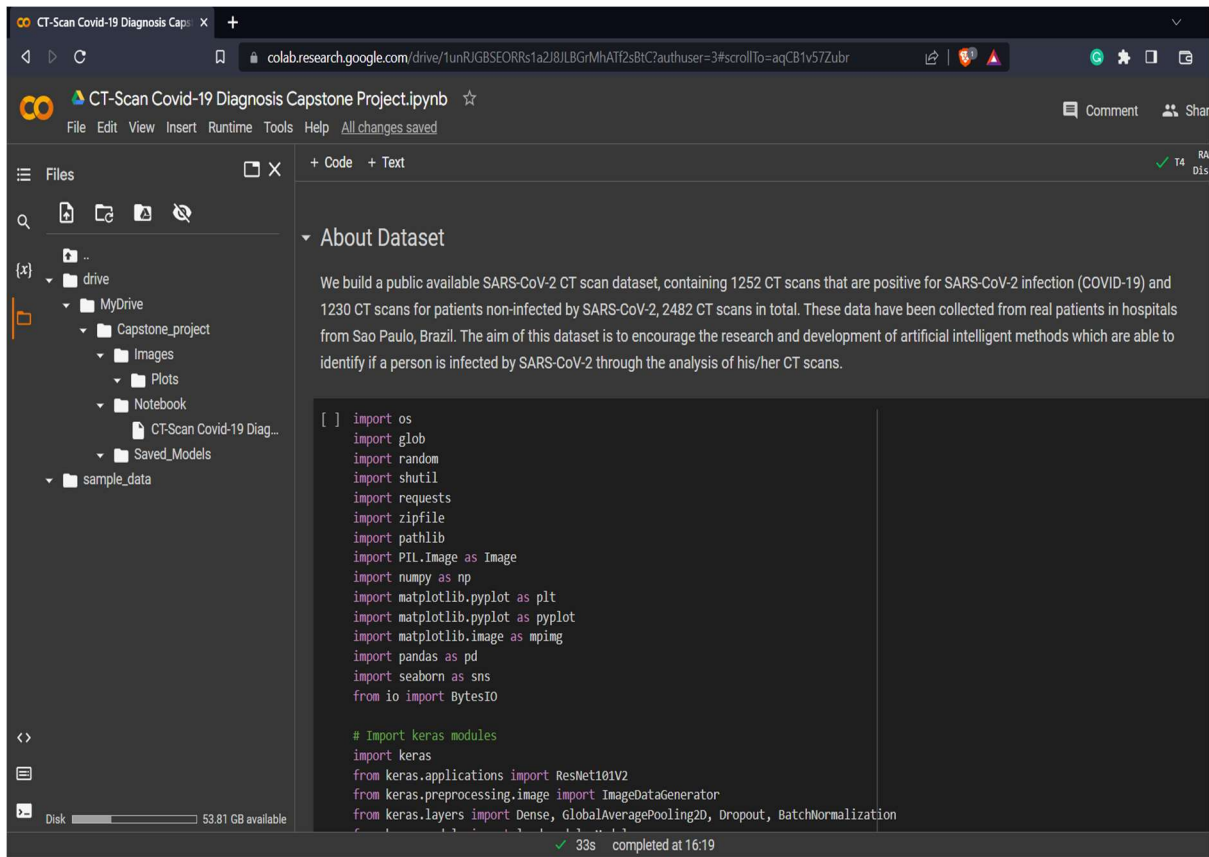


Fig 3. Before Running the Project (Directories)

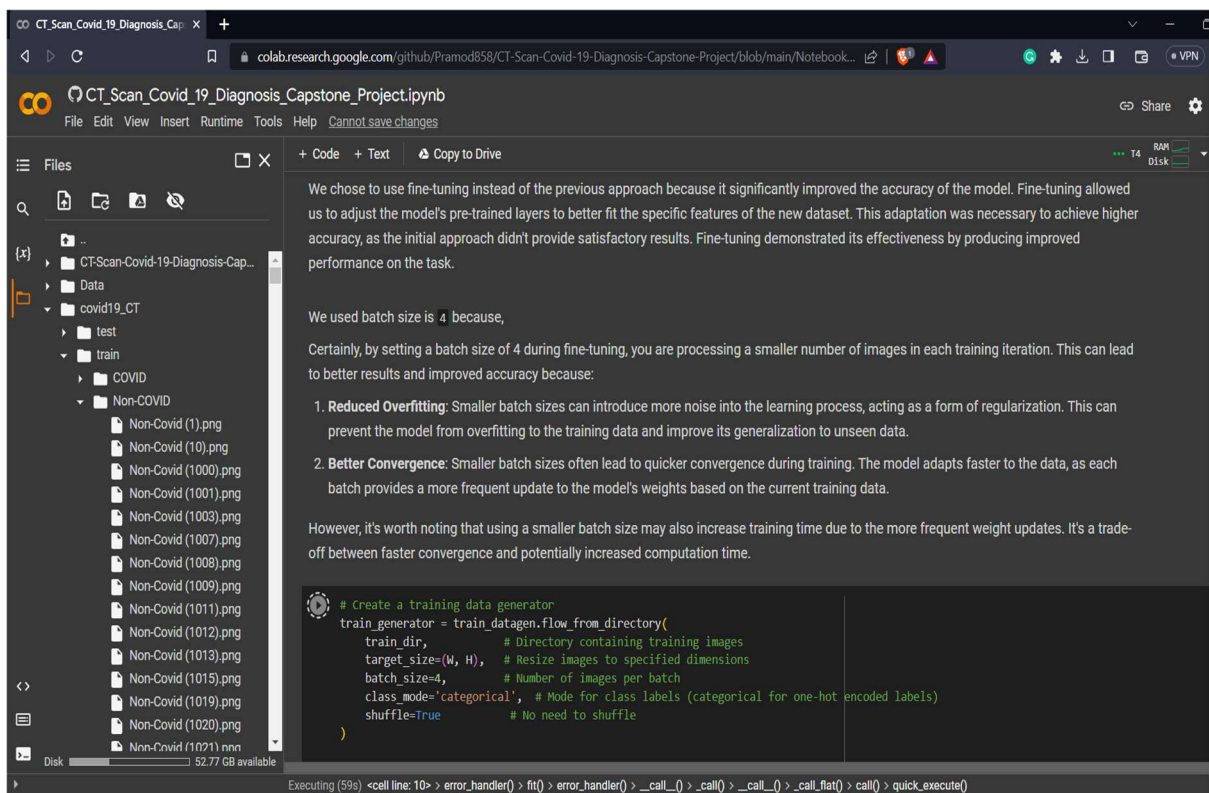
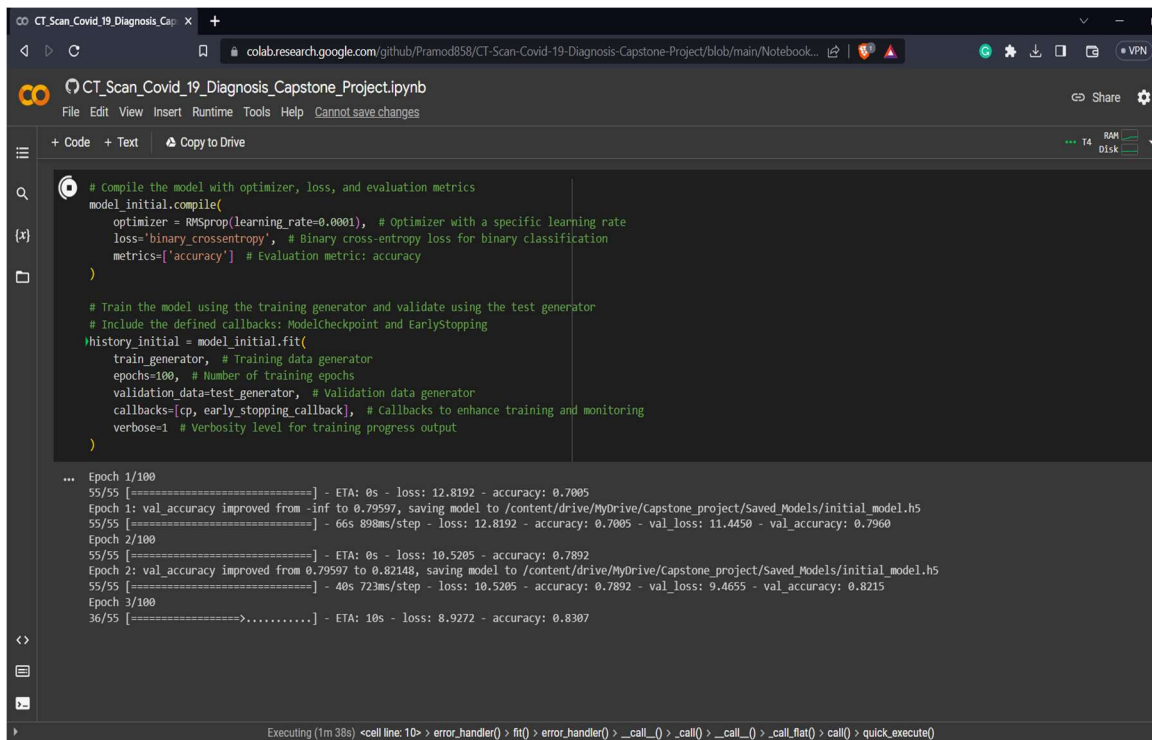


Fig 4. After Running the Project (Directories)



```
# Compile the model with optimizer, loss, and evaluation metrics
model_initial.compile(
    optimizer = RMSprop(learning_rate=0.0001), # Optimizer with a specific learning rate
    loss='binary_crossentropy', # Binary cross-entropy loss for binary classification
    metrics=['accuracy'] # evaluation metric: accuracy
)

# Train the model using the training generator and validate using the test generator
# Include the defined callbacks: ModelCheckpoint and EarlyStopping
history_initial = model_initial.fit(
    train_generator, # Training data generator
    epochs=100, # Number of training epochs
    validation_data=test_generator, # Validation data generator
    callbacks=[cp, early_stopping_callback], # Callbacks to enhance training and monitoring
    verbose=1 # Verbosity level for training progress output
)

... Epoch 1/100
55/55 [=====] - ETA: 0s - loss: 12.8192 - accuracy: 0.7005
Epoch 1: val_accuracy improved from -inf to 0.79597, saving model to /content/drive/MyDrive/Capstone_project/Saved_Models/initial_model.h5
55/55 [=====] - 66s 898ms/step - loss: 12.8192 - accuracy: 0.7005 - val_loss: 11.4450 - val_accuracy: 0.7960
Epoch 2/100
55/55 [=====] - ETA: 0s - loss: 10.5205 - accuracy: 0.7892
Epoch 2: val_accuracy improved from 0.79597 to 0.82148, saving model to /content/drive/MyDrive/Capstone_project/Saved_Models/initial_model.h5
55/55 [=====] - 40s 723ms/step - loss: 10.5205 - accuracy: 0.7892 - val_loss: 9.4655 - val_accuracy: 0.8215
Epoch 3/100
36/55 [=====>.....] - ETA: 10s - loss: 8.9272 - accuracy: 0.8307
```

Fig 5. Training the Model

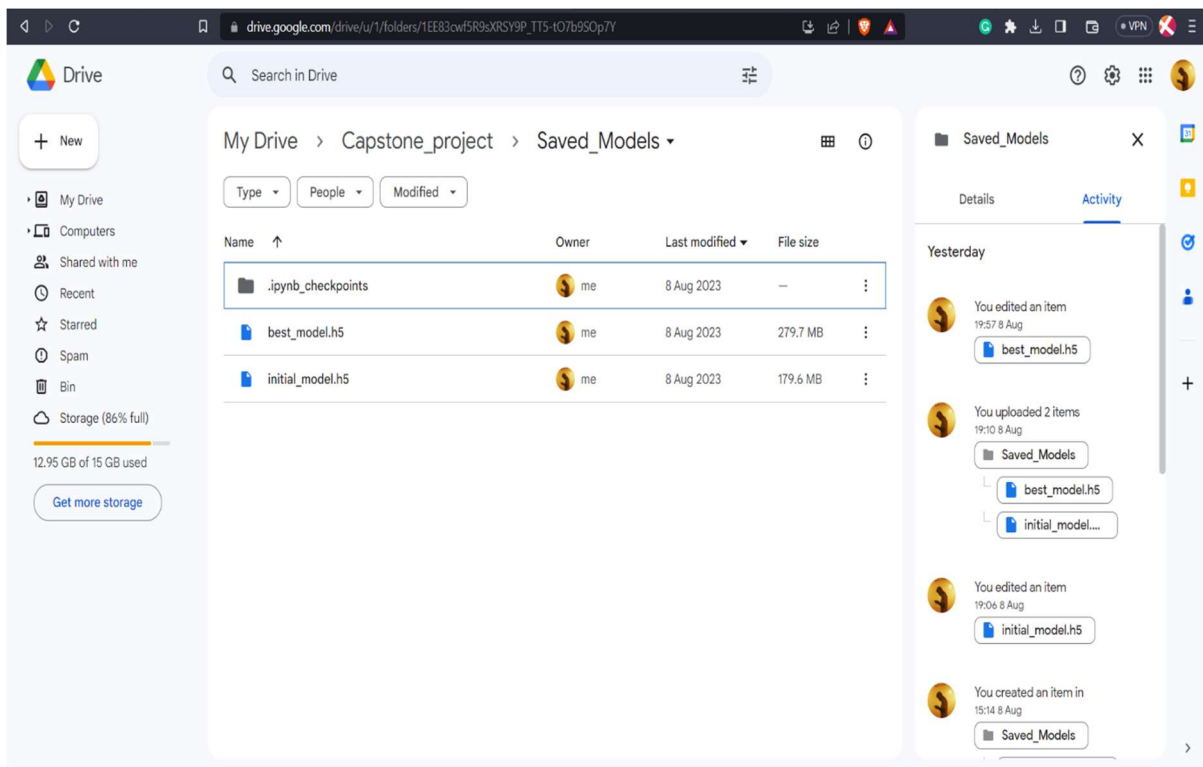


Fig 6. Saved Models in Drive

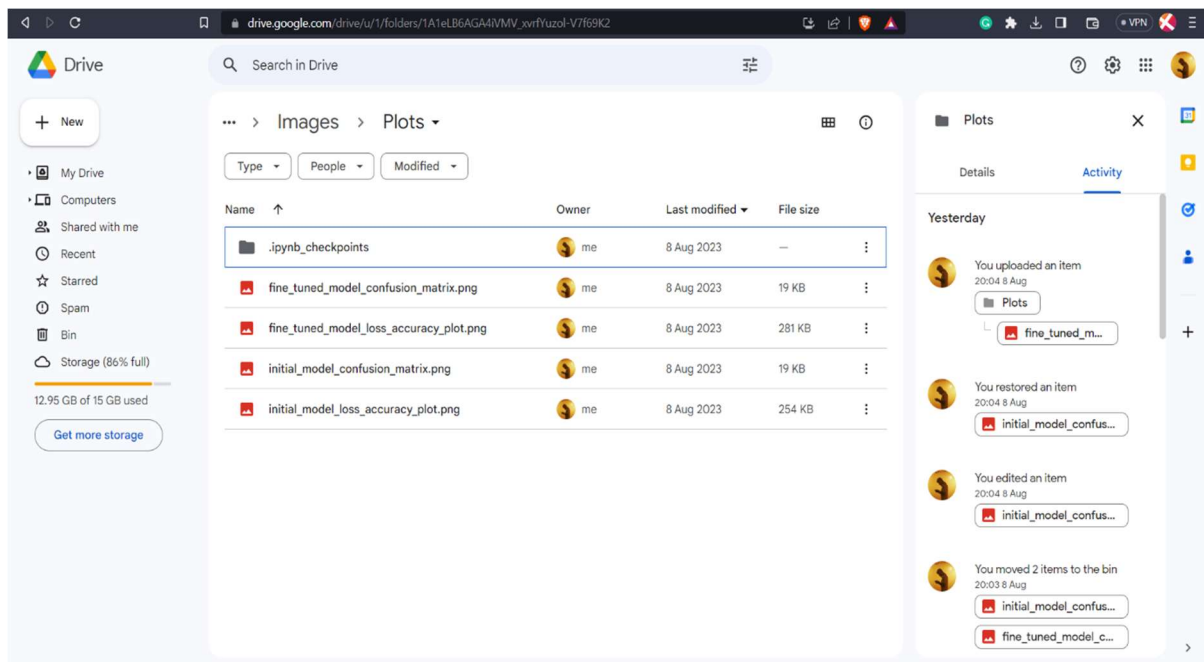


Fig 7. Saved Images in Drive