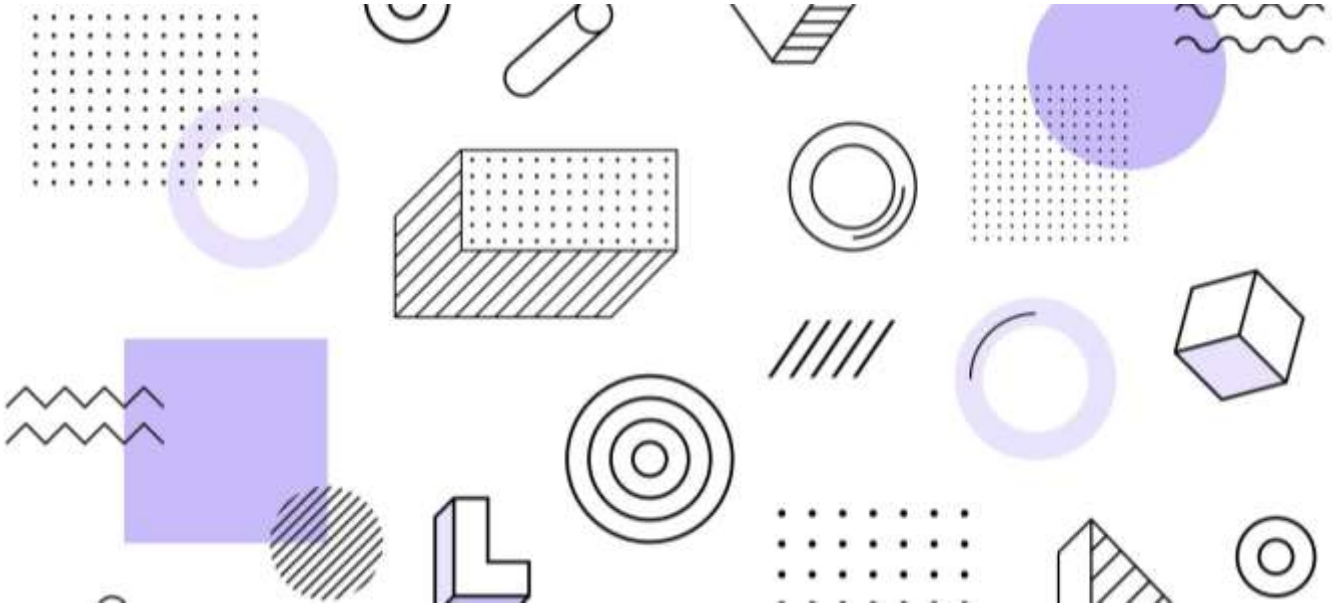
Hand drawn Multi Digits Recognition



Prepared by **Mohamed Suhaib**

Problem Statement

The goal of this hackathon is to use neural networks and computer vision to predict hand drawn digits. This means you have to create a drawing canvas to draw digits and identify/predict what are the digits drawn.

Scope of this project

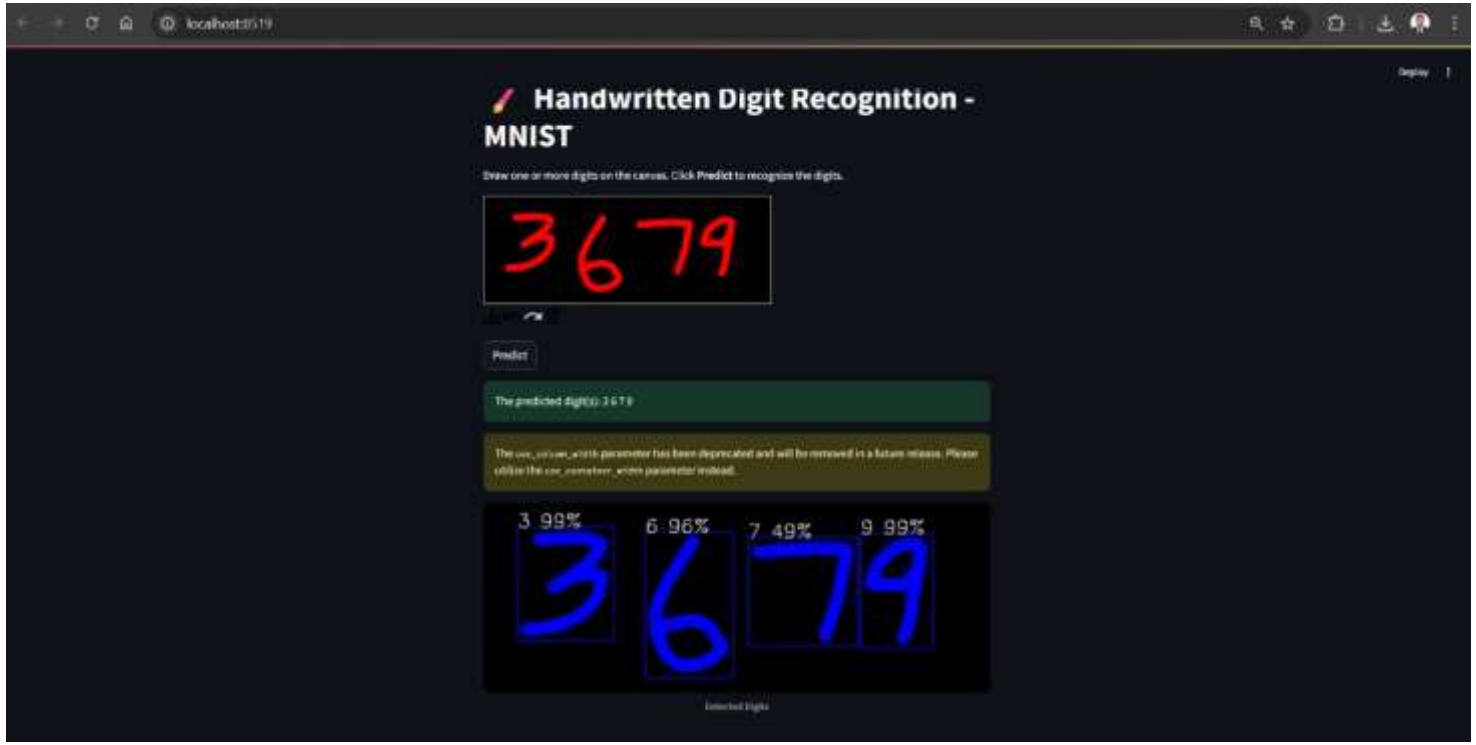
- You'll be using the MNIST **digits Dataset** from keras library. The dataset contains **hand written digits images**:
- MNIST is a collection of handwritten digits ranging from the number 0 to 9.
- It has a training set of 60,000 images, and 10,000 test images that are classified into corresponding categories or labels.
- To use the MNIST dataset in Keras, an API is provided to download and extract images and labels automatically (refer below statements).

- **from keras.datasets import mnist**
- **mnist.load_data()**

Data set provided

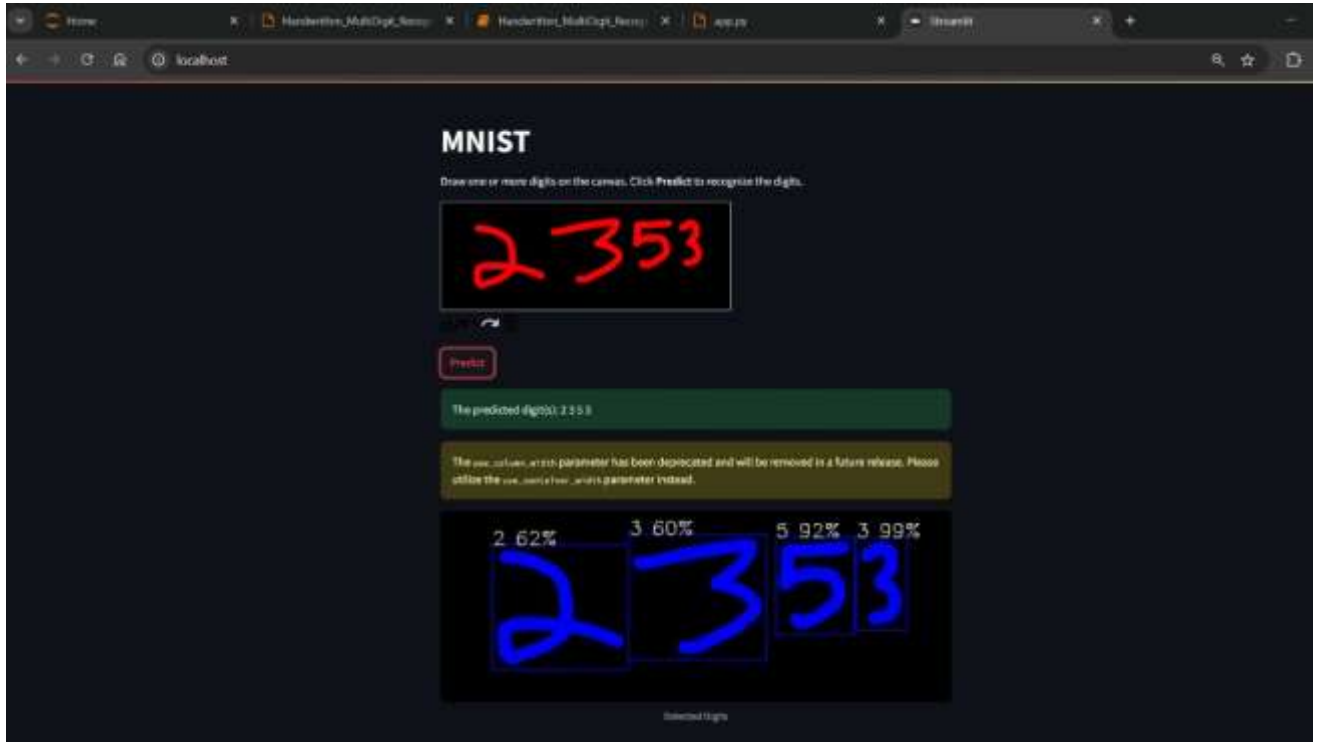
- Training set - 60000
- Test dataset - 10000

Prediction1:



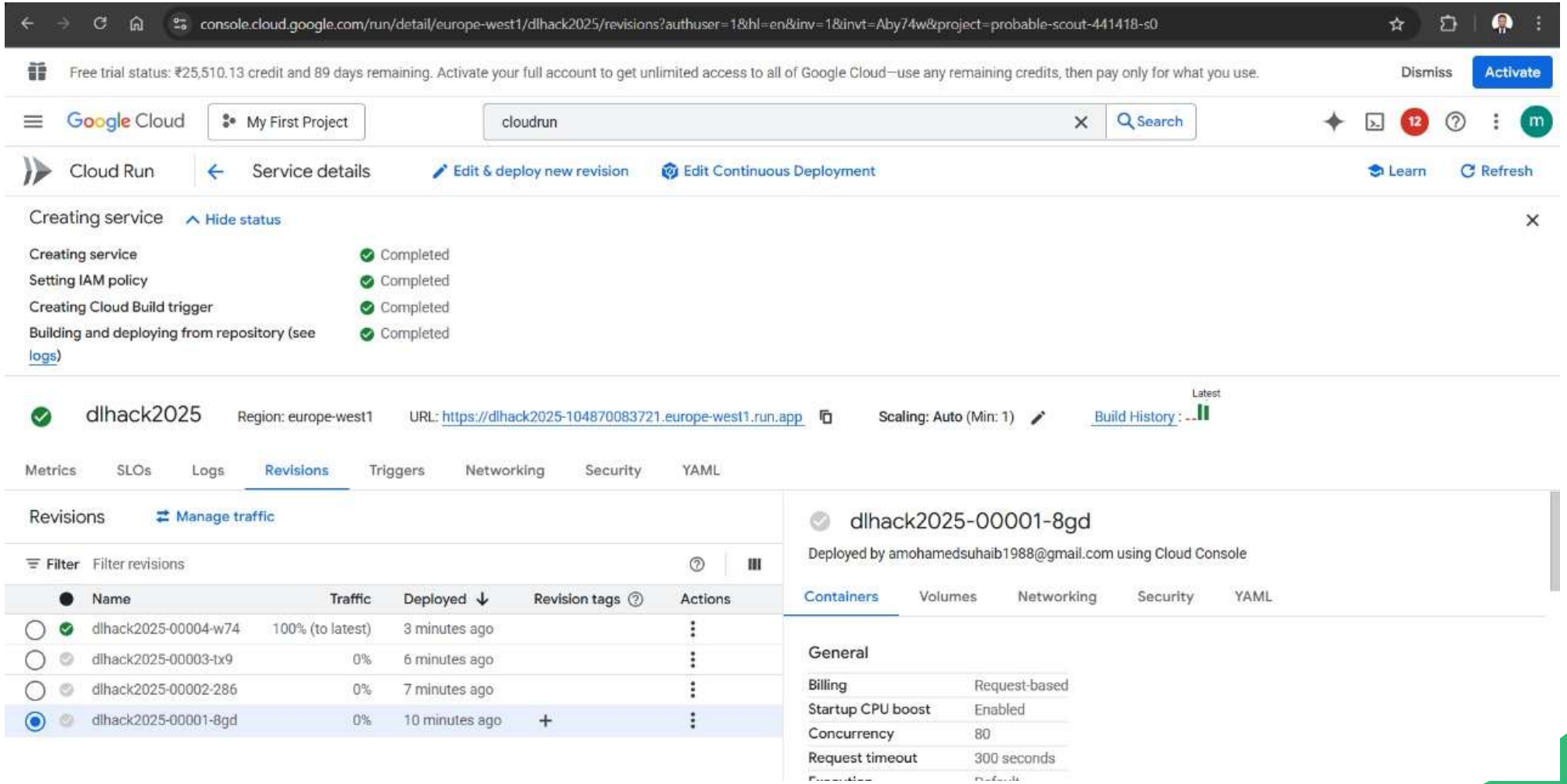
Prediction2:

Prediction Using Docker Build:

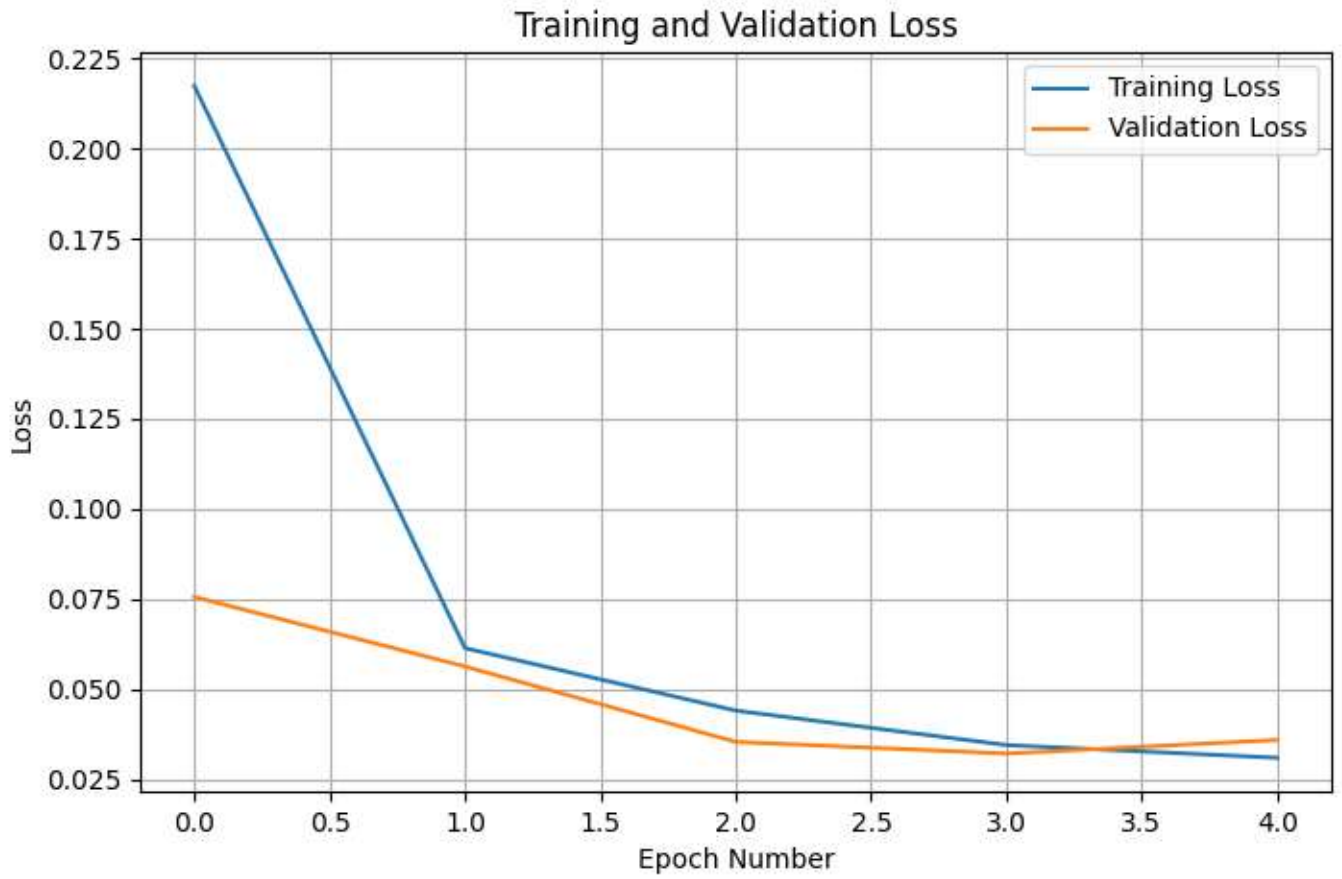


Cloudrun Deployment:

URL: https://dhack2025-104870083721.Europe-west1.run.app



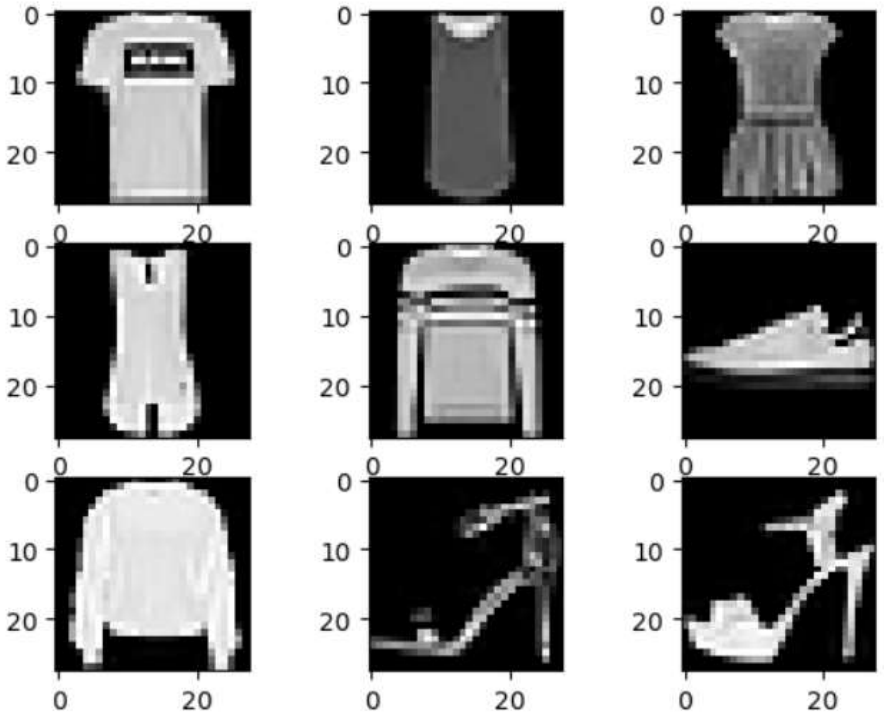
Training and Validation Loss:



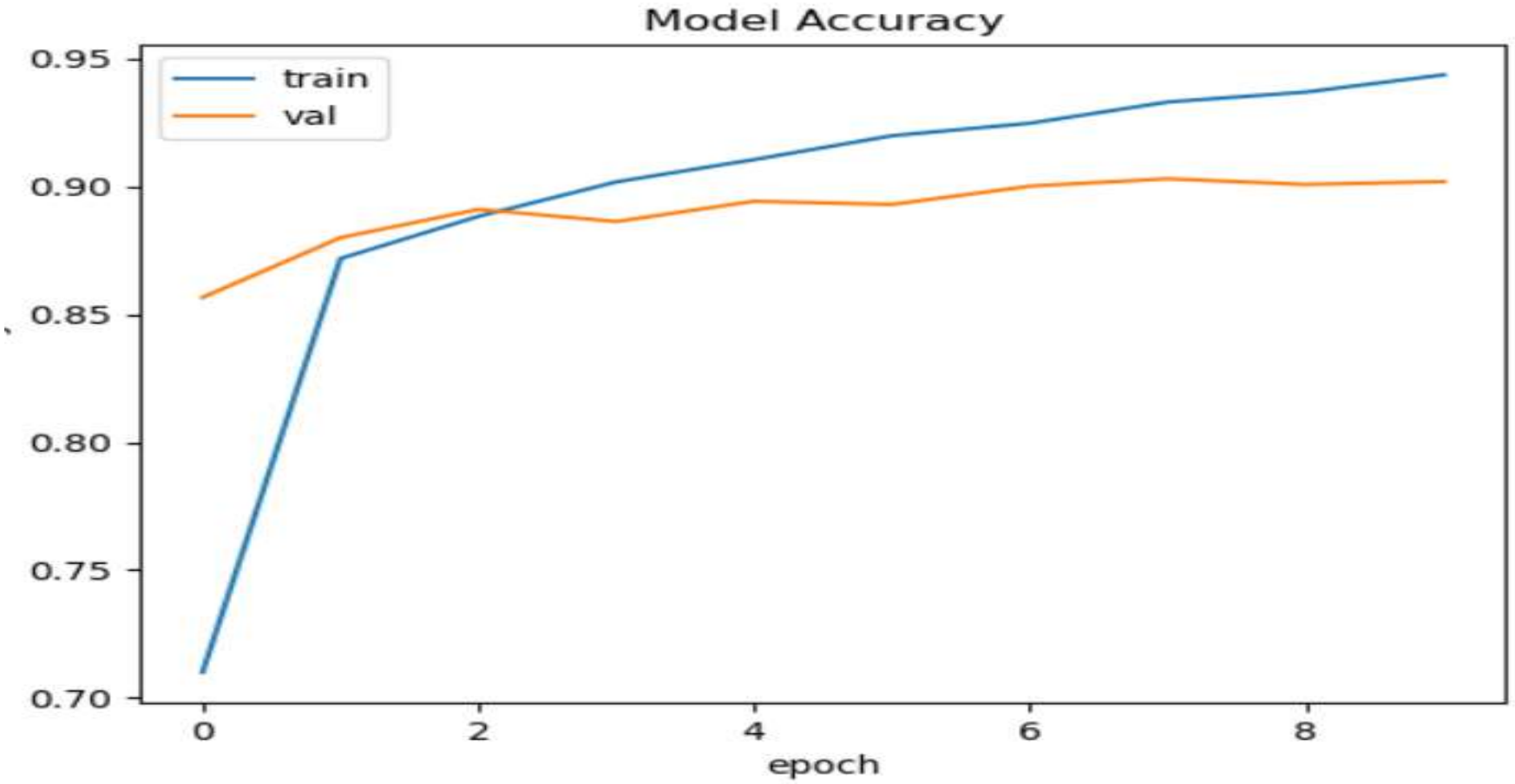
Training and Validation Accuracy

FashionMnist:

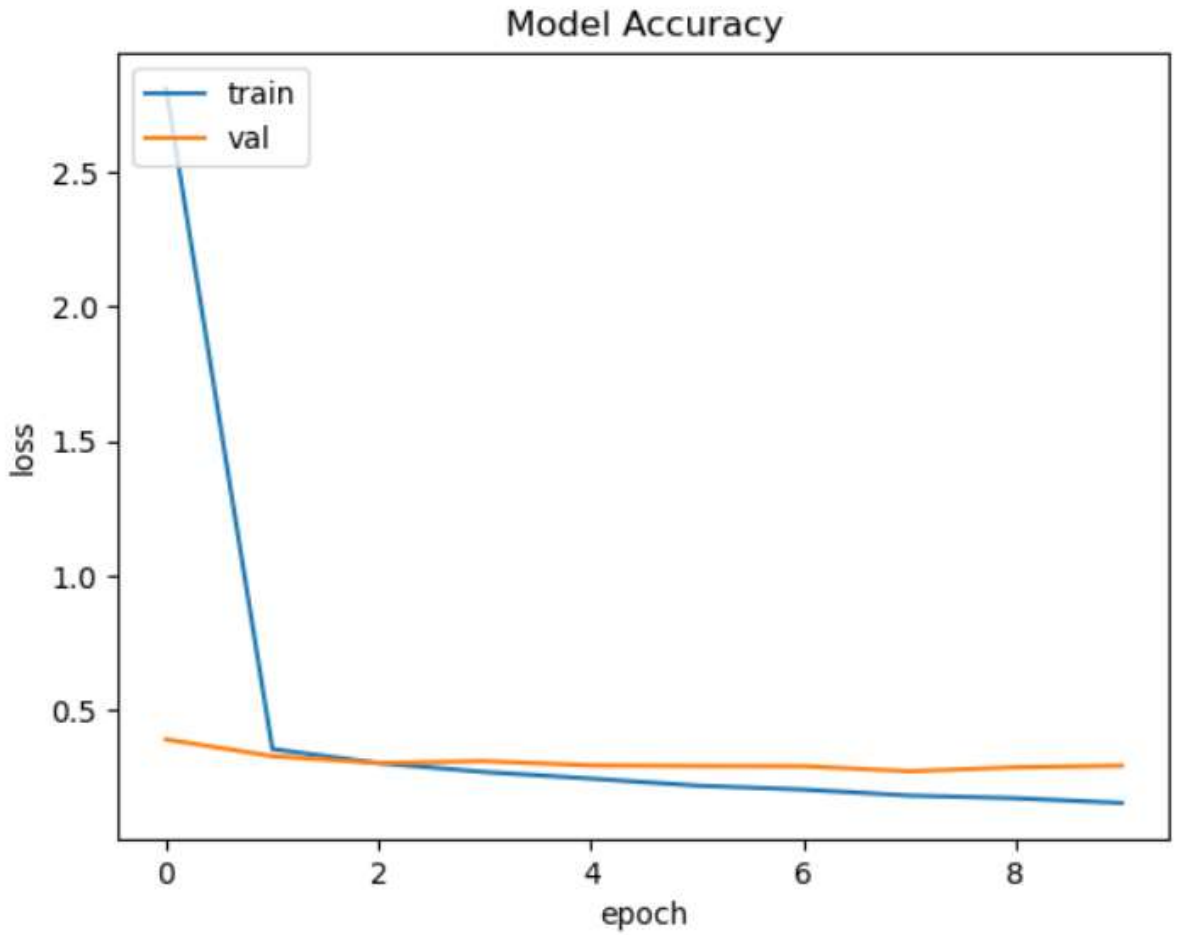
There are 10 output labels for the Fashion MNIST dataset: labels = ['t_shirt', 'trouser', 'pullover', 'dress', 'coat', 'sandal', 'shirt', 'sneaker', 'bag', 'ankle_boots']



Accuracy vs Epoch



Loss Vs Epoch



Predicting: ankle_boots