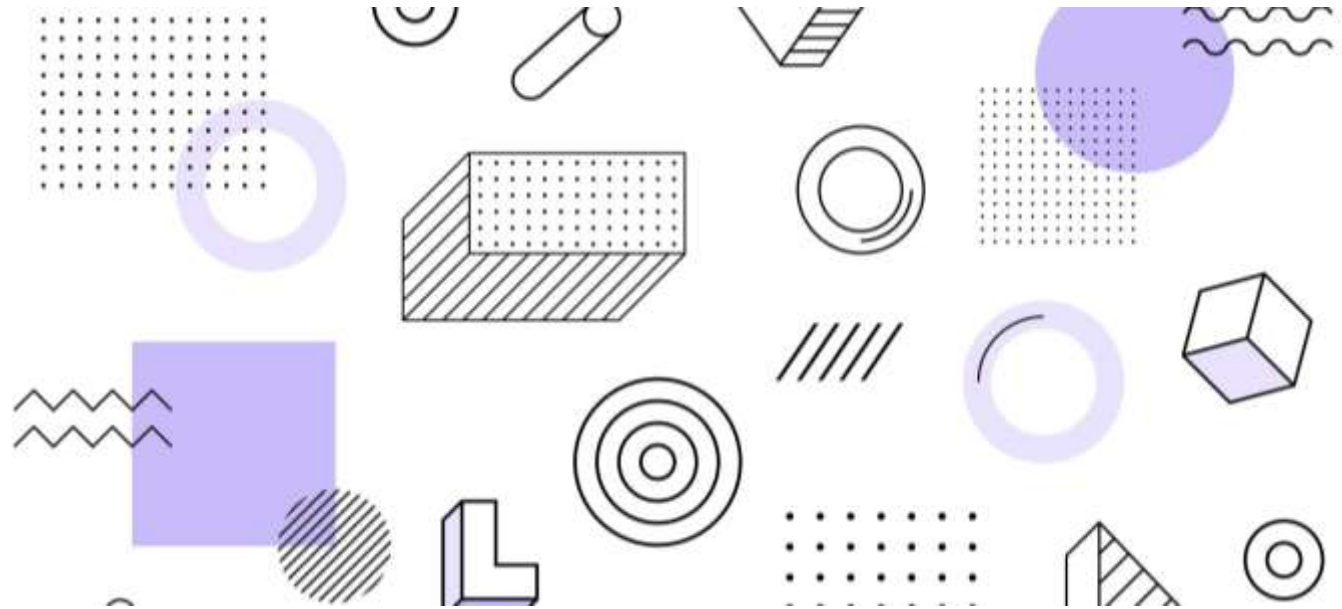


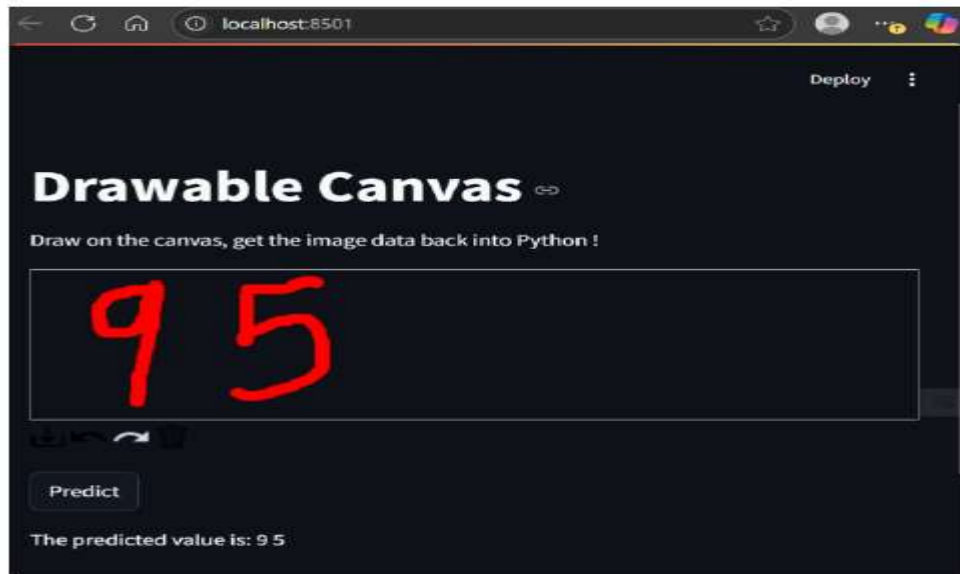
Hand drawn Multi Digits Recognition



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.



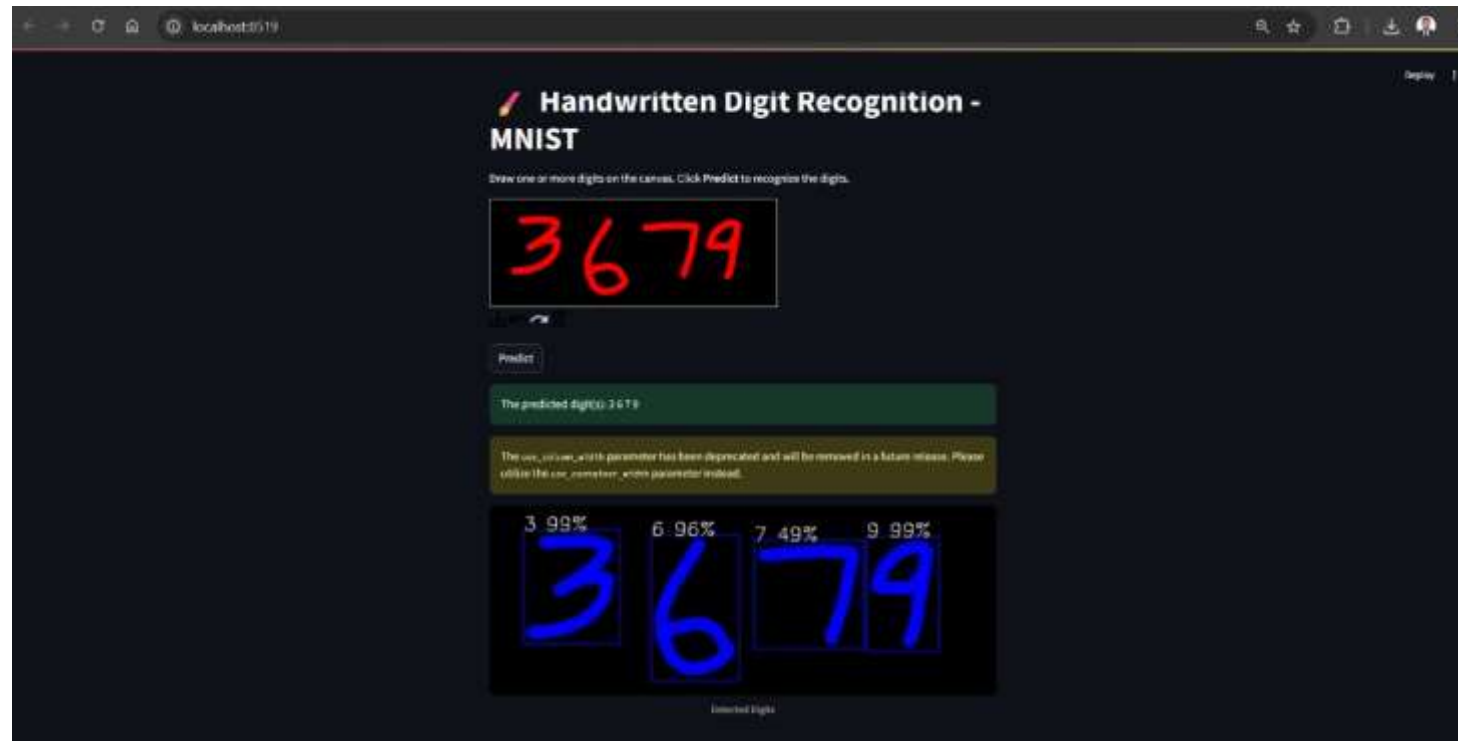
Scope of this project

- 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

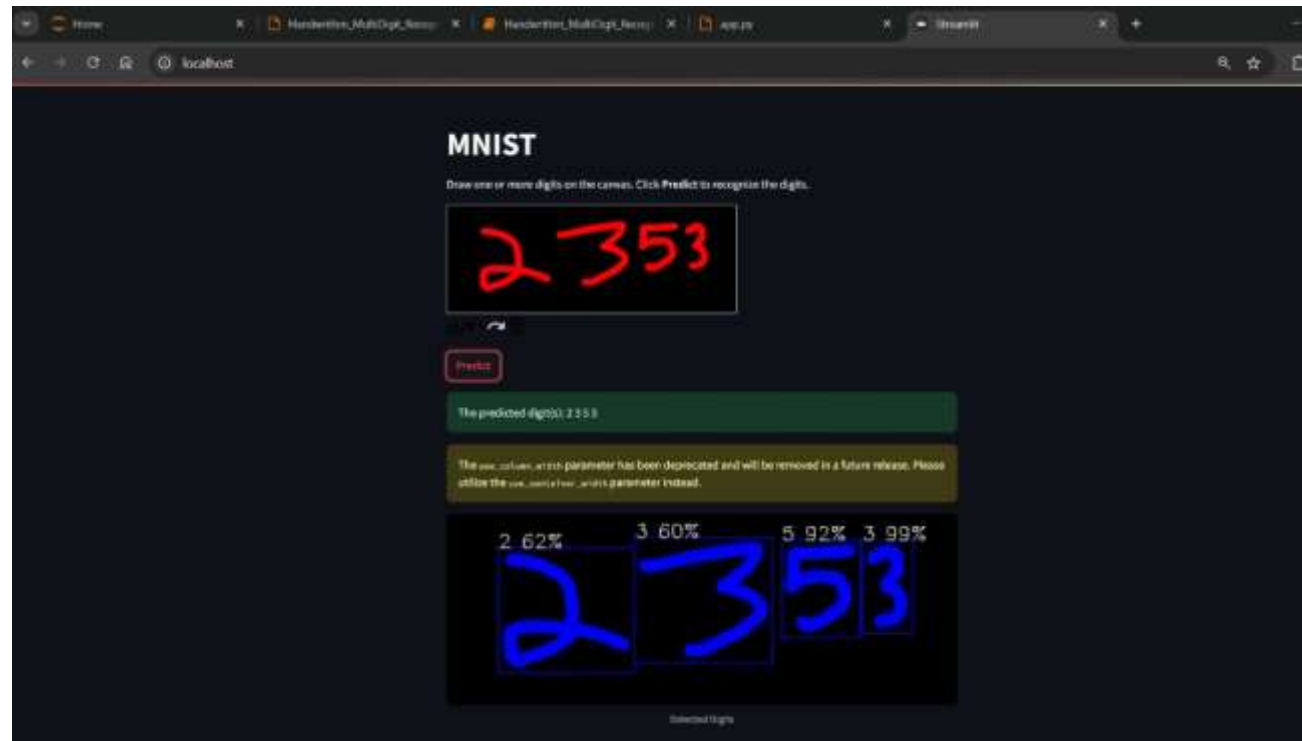
Prediction1:



Prediction2:



Prediction Using Docker Build:



Cloudrun Deployment:

URL: <https://dlhack2025-104870083721.europe-west1.run.app>

Free trial status: ₹25,510.13 credit and 89 days remaining. Activate your full account to get unlimited access to all of Google Cloud—use any remaining credits, then pay only for what you use. [Dismiss](#) [Activate](#)

Google Cloud My First Project cloudrun Search

Cloud Run Service details Edit & deploy new revision Edit Continuous Deployment Learn Refresh

Creating service [Hide status](#)

- Creating service ✓ Completed
- Setting IAM policy ✓ Completed
- Creating Cloud Build trigger ✓ Completed
- Building and deploying from repository (see [logs](#)) ✓ Completed

dlhack2025 Region: europe-west1 URL: <https://dlhack2025-104870083721.europe-west1.run.app> Scaling: Auto (Min: 1) [Build History](#)

Metrics SLOs Logs **Revisions** Triggers Networking Security YAML

Revisions [Manage traffic](#)

Filter Filter revisions

Name	Traffic	Deployed ↓	Revision tags ?	Actions
dlhack2025-00004-w74	100% (to latest)	3 minutes ago		
dlhack2025-00003-1x9	0%	6 minutes ago		
dlhack2025-00002-286	0%	7 minutes ago		
dlhack2025-00001-8gd	0%	10 minutes ago	+	

dlhack2025-00001-8gd

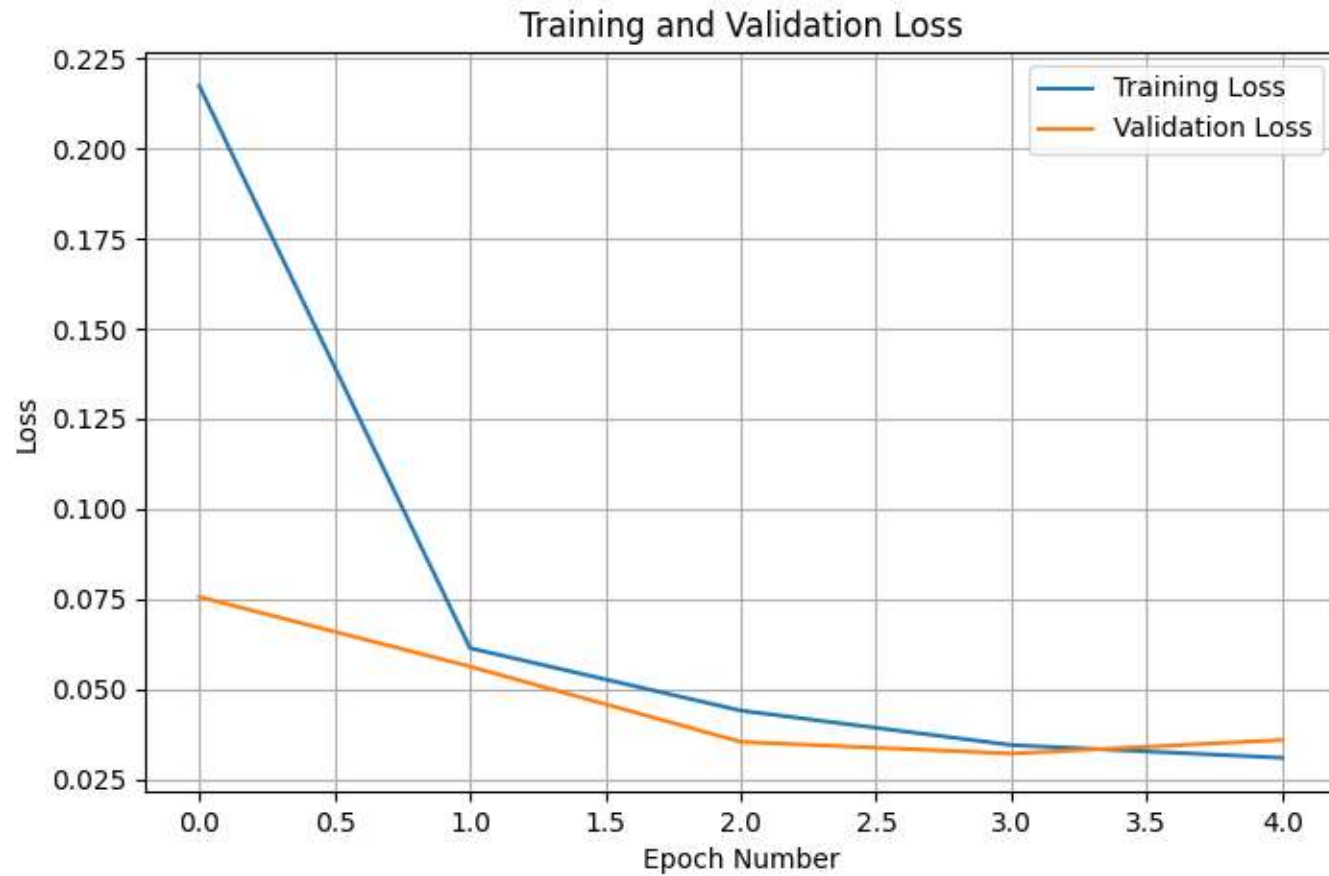
Deployed by amohamedsuhaib1988@gmail.com using Cloud Console

[Containers](#) Volumes Networking Security YAML

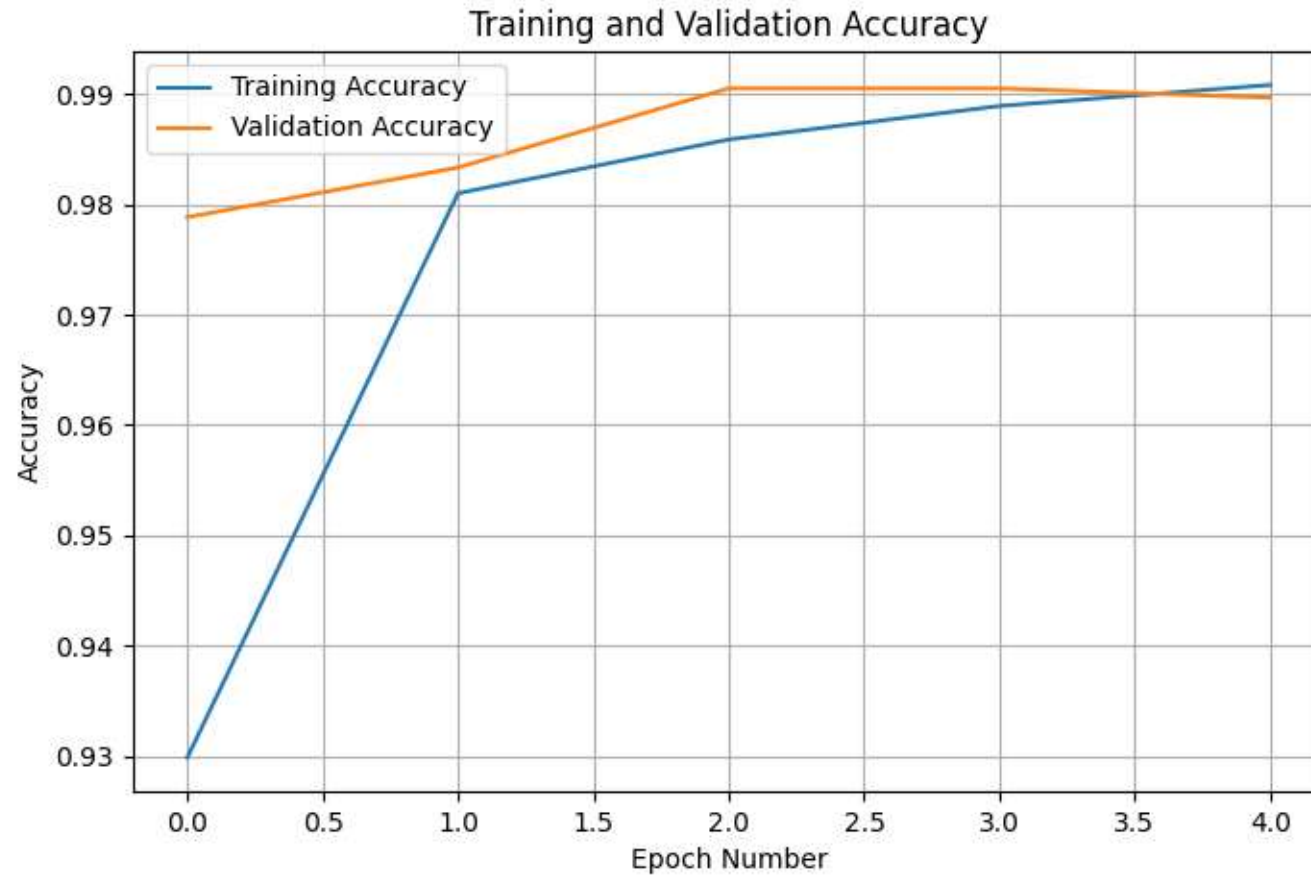
General

Billing	Request-based
Startup CPU boost	Enabled
Concurrency	80
Request timeout	300 seconds
Revision timeout	Default

Training and Validation Loss:

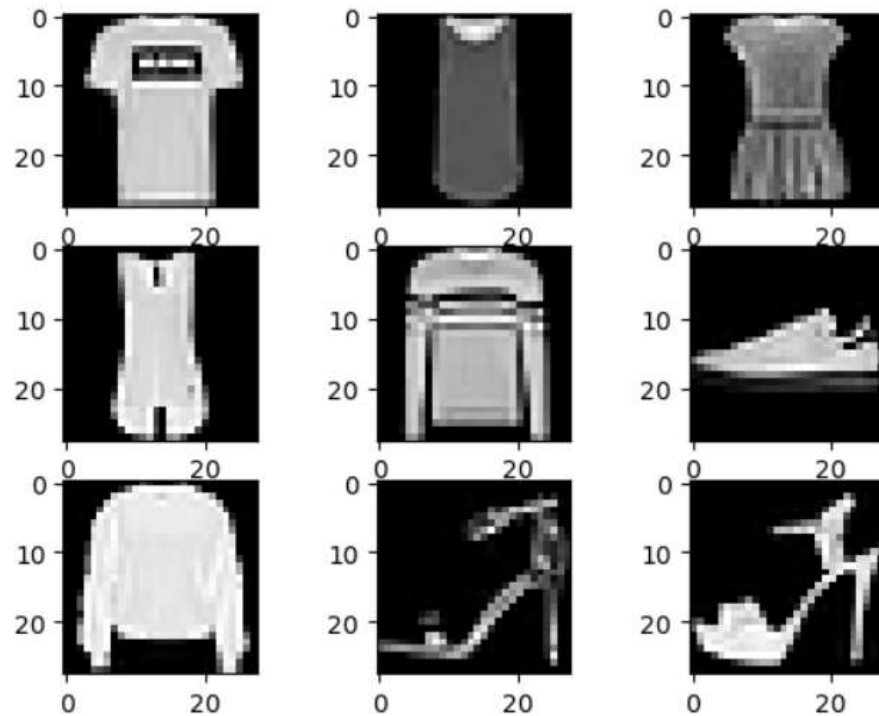


Training and Validation Accuracy

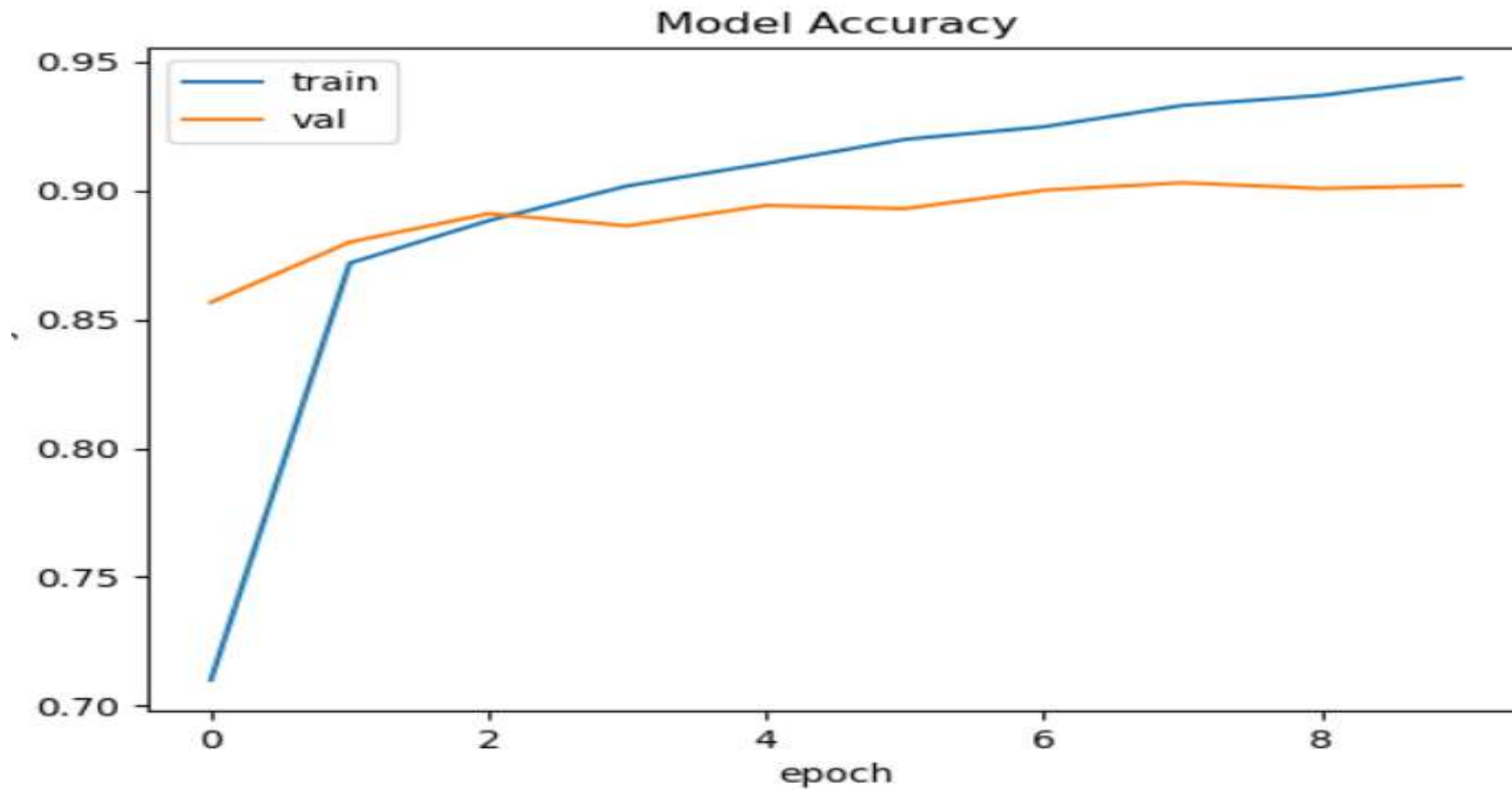


FashionMnist:

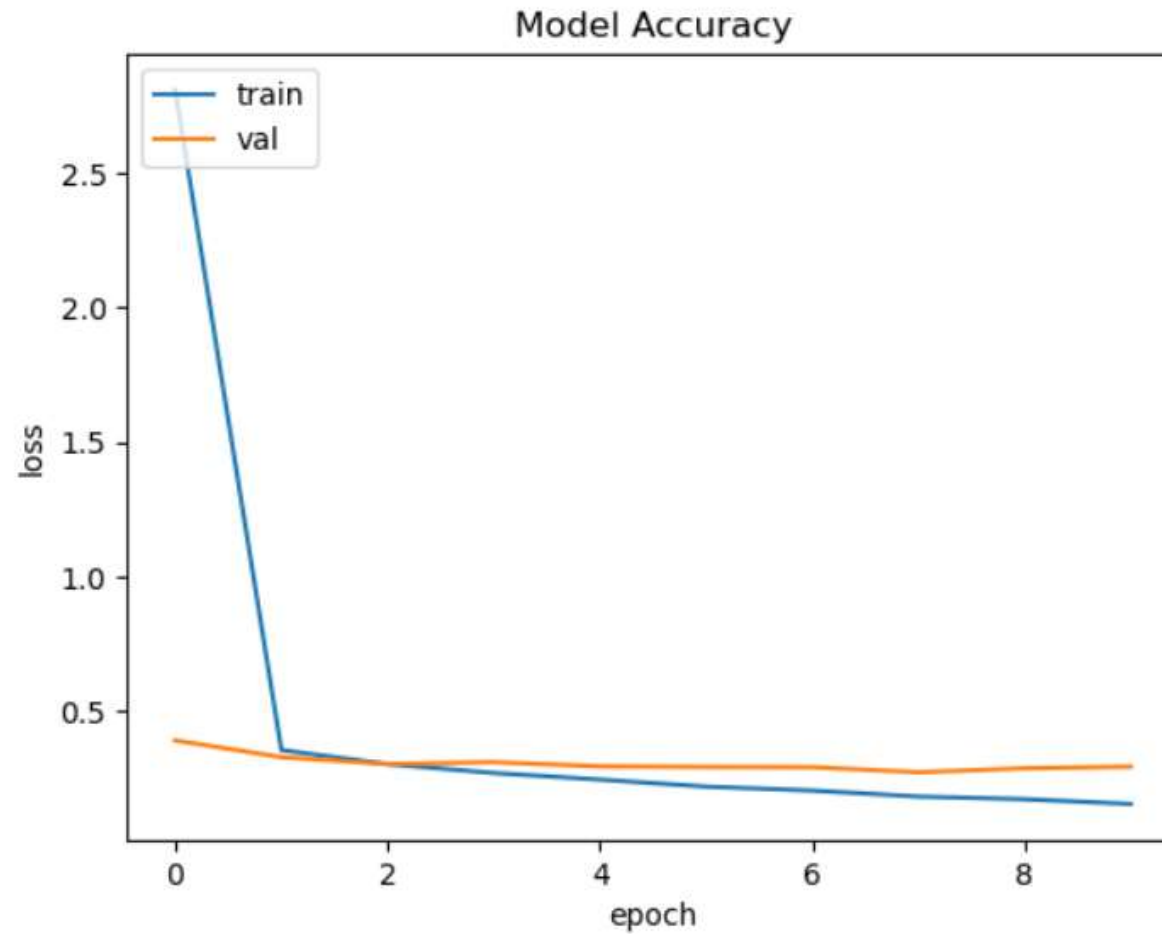
There are 10 output labels for the Fashion MNIST dataset: labels = ['t_shirt', 'trouser', 'pullover', 'dress', 'coat', 'sandal', 'shirt', 'sneaker', 'bag', 'ankle_boots']



Accuracy vs Epoch



Loss Vs Epoch



Predicting: ankle_boots

