

INTEL UNNATI PROGRAM

Problem Statement: Conquering Fashion MNIST with CNNs using Computer Vision

Procedure: Actively engaged in a variety of online courses offered on websites like Youtube, Coursera, and Udemy, with a particular emphasis on crucial subjects like Python, Numpy, Pandas, CNN, TensorFlow, and Deep Learning. Each subject was addressed in a separate course, offering thorough educational opportunities. I successfully finished a number of projects for these classes, one of which involved developing a neural network to predict cat photographs using the Fashion Dataset. I then ran the code through its paces locally and on the Intel Notebook platform while testing it on Google Colab and Jupyter Notebook.

Steps:

- 1) Download required libraries
- 2) Download MNIST Dataset
- 3) Label different classes
- 4) Plot multiple random images
- 5) Change the dimension of the data according to the mode
- 6) Scaling and Splitting the Dataset
- 7) Building Model using CNN
- 8) Training Model
- 9) Testing and Improving the Model
- 10) Evaluating the Model
- 11) Plotting Confusion Matrix
- 12) Getting Classification Report
- 13) Plotting the ROC Curve
- 14) Printing IoU Value
- 15) Intel Optimization Technique using Tensorflow (I Got an error in this and wasn't able to resolve it, that's why I didn't use any Optimization Technique)

By - Vansh Nyati