DEEP LEARNING CNN FOR FASHION-MNIST CLOTHING CLASSIFICATION

Digital image processing is the use of a digital computer to process digital images through an algorithms. As a subcategory or field of digital signal processing, digital image processing has many advantages over analog image processing. It allows a much wider range of algorithms to be applied to the input data and can avoid problems such as the build-up of noise and distortion during processing.

WHY CLOTHING CLASSIFICATION ?

The Fashion-MNIST clothing classification problem is a new standard dataset used in computer vision and deep learning.

Although the dataset is relatively simple, it can be used as the basis for learning and practicing how to develop, evaluate, and use deep convolutional neural networks for image classification from scratch. This includes how to develop a robust test harness for estimating the performance of the model, how to explore improvements to the model, and how to save the model and later load it to make predictions on new data.

Fashion MNIST Clothing Classification

The Fashion MNIST dataset is proposed as a more challenging replacement dataset for the MNIST dataset.

It is a dataset comprised of 60,000 small square 28×28 pixel grayscale images of items of 10 types of clothing, such as shoes, t-shirts, dresses, and more. The mapping of all 0-9 integers to class labels is listed below.

- 0: T-shirt/top
- 1: Trouser
- 2: Pullover
- 3: Dress
- 4: Coat
- 5: Sandal
- 6: Shirt
- 7: Sneaker
- 8: Bag
- 9: Ankle boot