BSYS4205 team project

Phoebe - Describe the dataset

The Fashion MINST dataset is used to train a neutral network model to sort 10 types of fashion items. The dataset consist of 60,000 images for training the network and 10,000 images for evaluating the network’s accuracy sorting the images.

The following is a list of clothing class the image and its corresponding label (0-**9):**

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

All the images are in the format of 28x28 NumPy arrays, with pixel ranging from 0 to 255. The following is a snapshot of the images the dataset has:

A picture containing text

Description automatically generated

Anamika - Include a sample data in the notebook and explain it

The sample data set that we will be using is Fashion MNIST. This dataset contains 70,000 fashion items from 10 different categories. Each product of clothing is 28 by 28 pixels.

Fashion MNIST is intended to be a substitute for MNIST. In most cases, MNIST is too easy, overused, and is unable to depict modern Computer Vision tasks. Fashion MNIST is known for its variety and is an excellent introduction point for testing and debugging codes.

We will be using Jupiter Notebook to conduct the data. Jupiter Notebook is unanimously known for its visualization. It also provides exceptional tools such as collaboration to help to make the

After loading the dataset on to Jupiter Notebook under NumPy, it returns four array values.

The training set consists of the “train\_images” and “train\_labels” arrays. The model uses this data to learn.

There is also the test set which comprises the “test\_images” and the “test\_labels” arrays. The training set is tested with the model.

All of the images range from 0-255 pixels with NumPy arrays that are 28x28. There are label arrays that range from 0-9 that have corresponding classes of clothing for the specific clothing categories they represent. The class names are as followed:

class\_names = ['T-shirt/top', 'Trouser', 'Pullover', 'Dress', 'Coat',

'Sandal', 'Shirt', 'Sneaker', 'Bag', 'Ankle boot']

Vaish - Write our project's objective

Hiroko - Explain how the algorithm works

Luciana - Explain the hyper parameters

our project's objective

The purpose of our presentation is to provide a basic overview on what Machine Learning is, for someone that has minimal knowledge on this subject.

We will achieve this by walking you through the process of training a neural network model on the classification of various fashion images including clothing, shoes. Once we have trained the model, our team will assess errors and accuracy. The final step will be to utilize our trained model to make predictions.