Our project focuses on image classification using convolutional neural networks (CNNs) applied to the Fashion MNIST dataset. Fashion MNIST consists of grayscale images of fashion items categorized into 10 classes. We aim to develop a model that accurately classifies these fashion items into their respective categories.

The project begins with loading and preprocessing the dataset using TensorFlow. We reshape the images and normalize pixel values to prepare them for training. Next, we design a CNN architecture comprising convolutional layers, max pooling layers, flatten layers, dense layers, and dropout layers to prevent overfitting.

After compiling the model with appropriate optimizer, loss function, and metrics, we train it on the training set and evaluate its performance on the test set. The training process involves iterating over epochs and updating model parameters to minimize the loss function.

Once trained, we evaluate the model's accuracy on the test set and visualize the training history to analyze its performance over epochs. Additionally, we display sample images from the test set along with their predicted labels to gain insights into the model's predictions.

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