

**Statement 1:**

Train a Deep Neural Network on the MNIST dataset using the Adam optimizer with a learning rate of 0.001, and generate a classification report and ROC AUC plot.

**Statement 2**

Train a DNN using the SGD optimizer with a learning rate of 0.0001 on the MNIST dataset and analyze the model's performance.

**Statement 3**

Train a Deep Neural Network on the MNIST dataset using RMSprop optimizer with a learning rate of 0.0001, and compare results using an accuracy table and ROC curve.

**Statement 4**

Use SGD optimizer with a learning rate of 0.01 to train a DNN on the Wildfire dataset, then evaluate precision, recall, and F1-score with supporting bar plots.

**Statement 5**

Train a DNN on the Forest Fire dataset using RMSprop optimizer with a learning rate of 0.01. Report training and validation accuracy

**Statement 6**

Compare DNN training using Adam and SGD optimizers (both with a learning rate of 0.001) on the Wildfire dataset

**Statement 7**

Image Classification on MNIST Using DNN with Learning Rate Variation

- Use the MNIST dataset and build a DNN
- Train the same model using learning rates: 0.01, 0.001
- Use SGD optimizer and track accuracy for each run
- Plot loss and accuracy for comparison

**Statement 8**

Evaluating DNN on CIFAR-10 Using Batch Size Variation

- Load CIFAR-10 dataset
- Use a feed-forward network with BatchNormalization
- Train with batch sizes 32 and 64, keeping other parameters constant
- Use Adam optimizer and train for 10 epochs
- Compare accuracy and plot graphs

**Statement 9**

Train a DNN on the UCI dataset using batch size 32 and a learning rate of 0.0001. Evaluate training time and accuracy

**Statement 10**

Preprocess the Alphabet CSV dataset using label encoding and standard scaling, then train a simple DNN using batch size 32 and learning rate 0.0001

**Statement 11**

Use a batch size of 64 and learning rate of 0.001 to train a DNN on the UCI dataset. Document training accuracy and loss.

**Statement 12**

Preprocess the Alphabet dataset and train a CNN with the architecture using Adam optimizer, 20 epochs, batch size 64, and learning rate 0.001.

**Statement 13**

Compare the performance of a CNN and a DNN on the CIFAR-10 dataset. Highlight differences in accuracy and training time.

**Statement 14**

Implement a Deep Neural Network (DNN) on the MNIST dataset using the Adam optimizer with a learning rate of 0.001 and plot training accuracy and loss.

**Statement 15**

Implement a DNN using RMSprop with learning rates 0.01 and 0.0001 on the Wildfire dataset. Compare training and validation performance.

**Statement 16**

Multiclass classification using Deep Neural Networks: Example: Use the OCR letter recognition dataset/Alphabet.csv

**Statement 17**

Implement the training of a DNN using Adam and SGD optimizers with a learning rate of 0.001 on the Wildfire dataset. Provide comparative plots.

**Statement 18**

Implement a DNN using batch sizes 32 and 64 with a fixed learning rate of 0.001 on the UCI dataset. Compare model loss and performance.

**Statement 19**

Preprocess the Alphabet dataset and train both a DNN and a CNN. Use Adam optimizer with a batch size of 64. Compare accuracy across 20 epochs.

**Statement 20**

Classify Apple leaf images using a CNN without data augmentation for 10 epochs.

**Statement 21**

Implement a CNN on Tomato dataset using batch sizes of 32 and 64 separately. Keep the learning

*rate fixed at 0.0001 and compare results.*

**Statement 22**

*Implement CNNs using Adam and RMSprop optimizers with a learning rate of 0.001 on Peach images. Record validation loss and accuracy.*

**Statement 23**

Build and train a CNN model for Apple image classification that includes Dropout layers. Train using 15 epochs and evaluate performance.

**Statement 24**

Split Grape image data into 70% train, 15% validation, and 15% test. Train a CNN for 10 epochs using a fixed learning rate of 0.001.

**Statement 25**

Use LeNet architecture to classify the Cats and Dogs dataset, and plot training loss and accuracy curves.

**Statement 26**

Use MobileNet architecture perform transfer learning on the Cats and Dogs dataset, and evaluate model performance using a classification report.

**Statement 27**

Build both CNN and DNN models for the CIFAR-10 dataset, compare their accuracy and loss

**Statement 28**

Implement an RNN on the GOOGL.csv dataset and compare its training time and loss curve with an LSTM model.

**Statement 29**

Use transfer learning with VGG16 on the Cats and Dogs dataset, freezing the first 4 layers, and train the classifier and evaluate model performance using a classification report.

**Statement 30**

*Load and visualize sample images from the Potato dataset, train CNN for 5 epochs*

**Statement 31**

*Implement LSTM models on GOOGL.csv with learning rates 0.001 and 0.0001 for 20 and 50 epochs. Compare accuracy and convergence.*

**Statement 32**

Implement a CNN on Tomato dataset using batch sizes of 32 and 64 separately. Keep the learning rate fixed at 0.0001 and compare results.

**Statement 34**

Implement CNN model on Potato leaf images using the Adam optimizer and i Use a learning rate of

0.001 evaluate model Performance

**Statement 35**

Build a Deep Neural Network for Fashion MNIST Classification

- Load Fashion MNIST dataset
- Preprocess the data using standardization
- Define a feed-forward neural network with 3 Dense layers
- Use RMSprop optimizer and categorical crossentropy loss
- Train the model for 15 epochs and evaluate performance
- Plot the training and validation curves