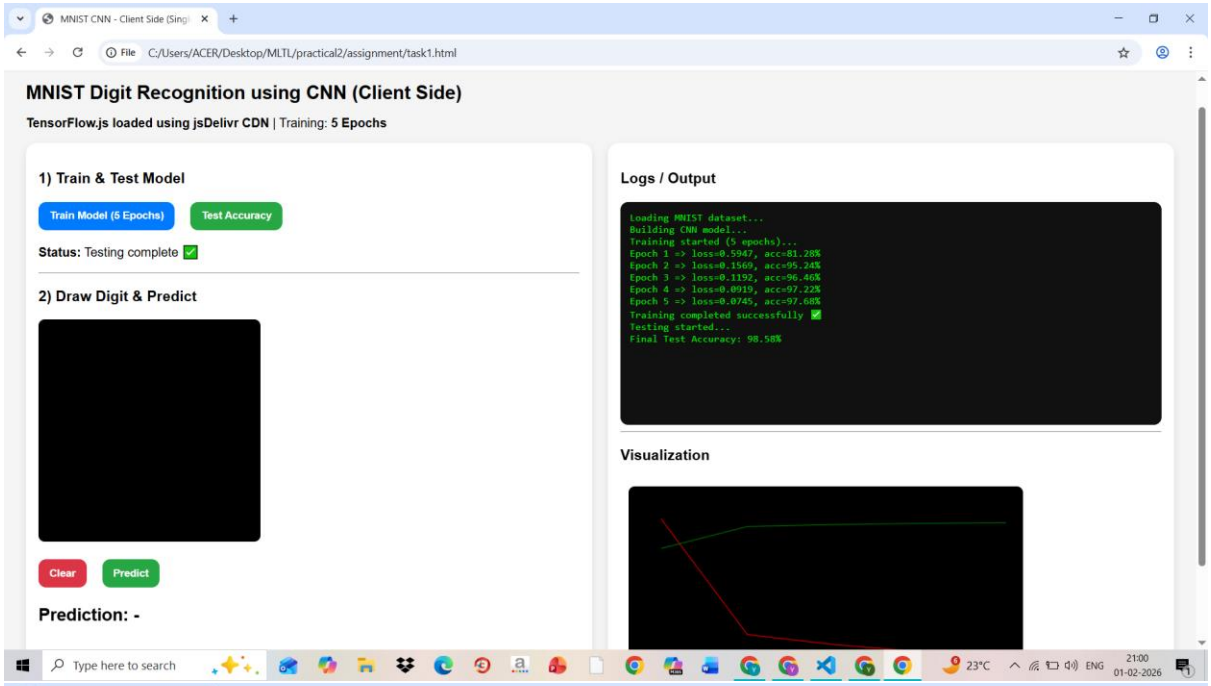
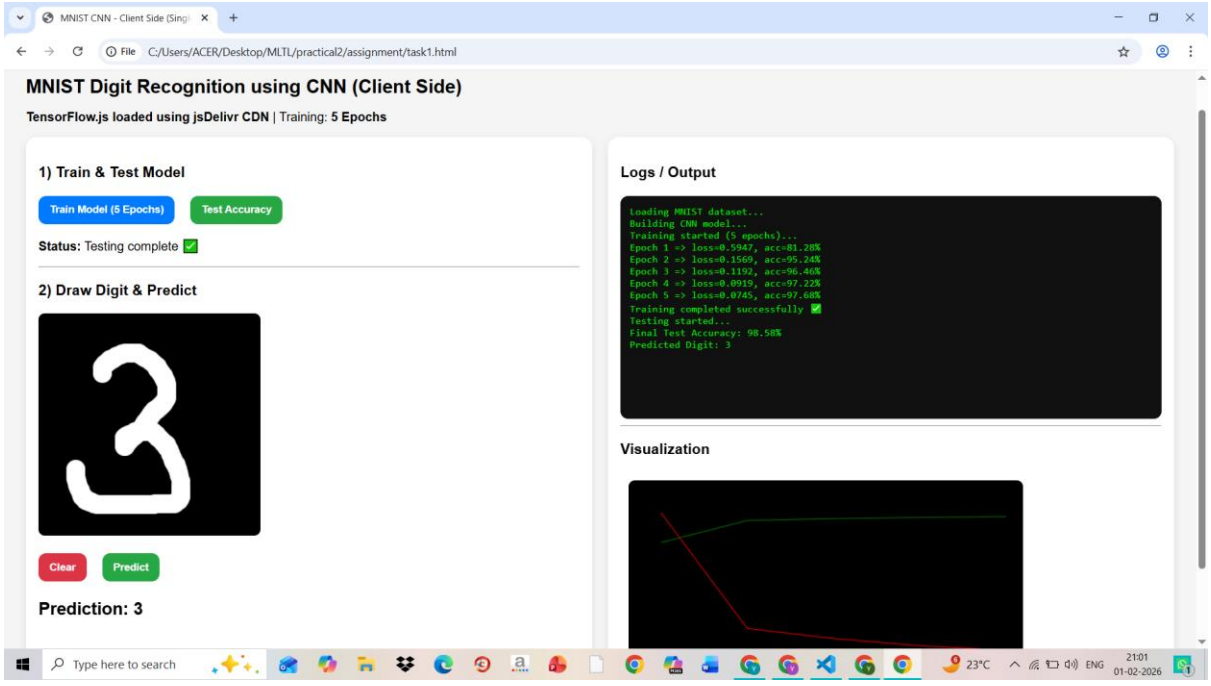
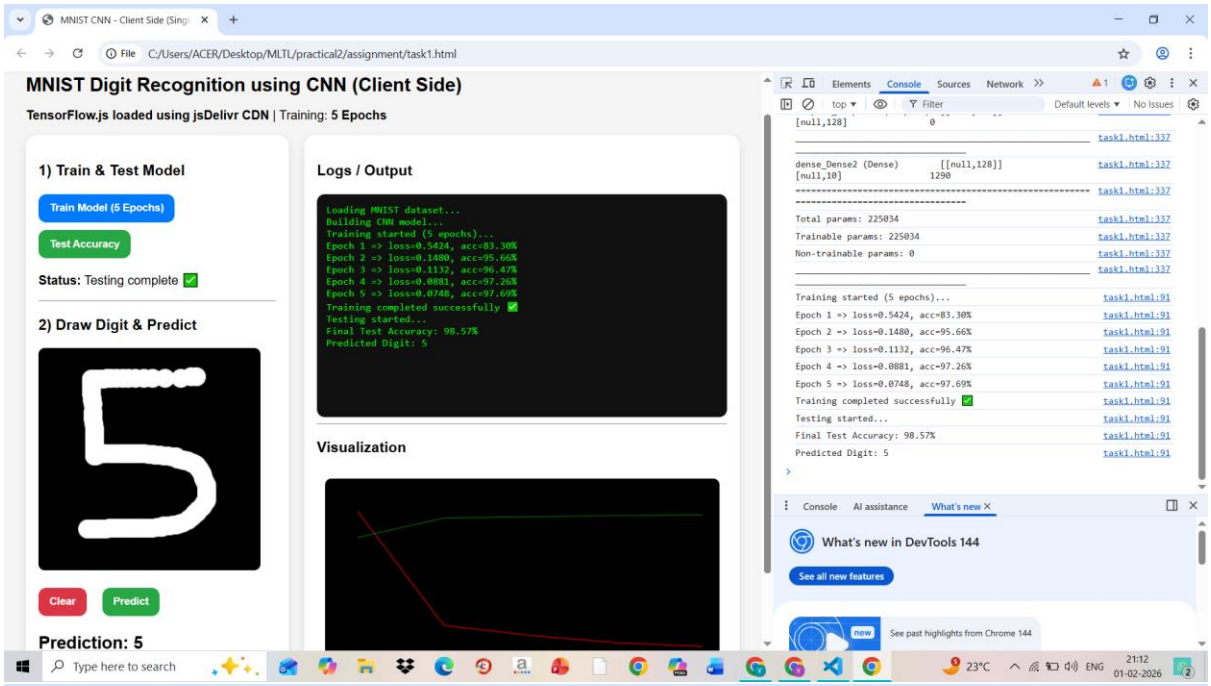
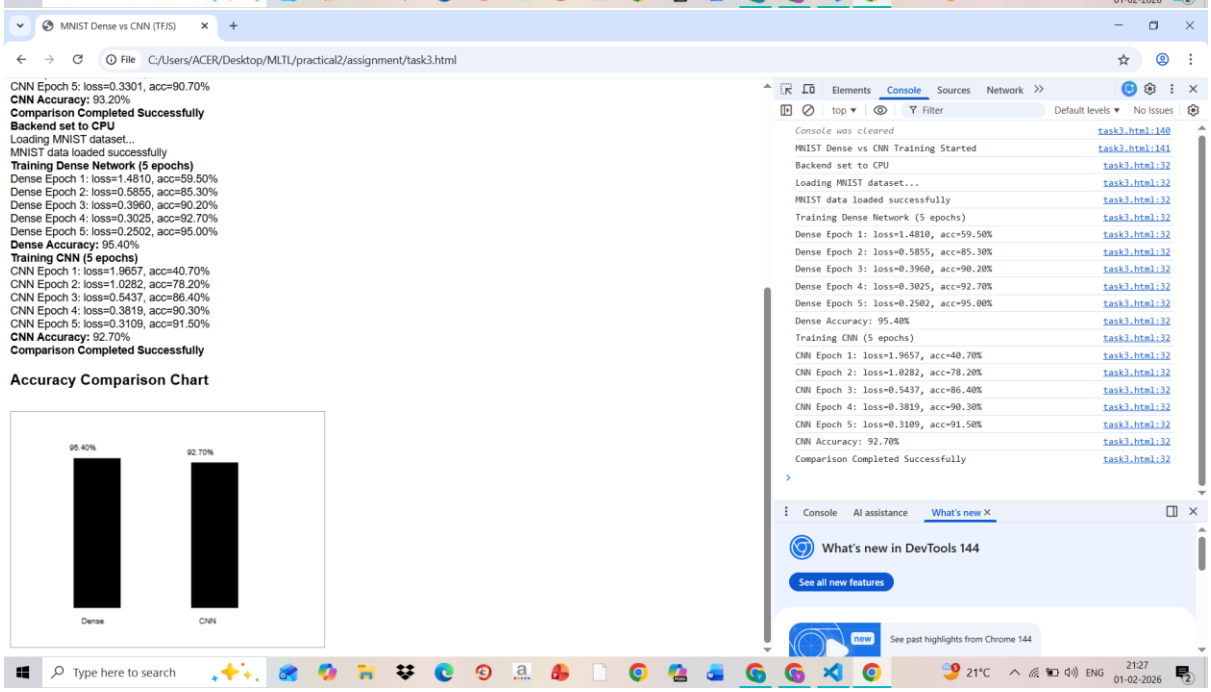
PRACTICAL - 2

CM23042






MNIST CNN - Client Side (Sing
File C:/Users/ACER/Desktop/MLTL/practical2/assignment/task1.html
MNIST Digit Recognition using CNN (Client Side)
TensorFlow.js loaded using jsDelivr CDN | Training: 5 Epochs
1) Train & Test Model
Train Model (5 Epochs)
Test Accuracy
Status: Testing complete
2) Draw Digit & Predict
Clear
Predict
Prediction: 5
Logs / Output
Loading MNIST dataset...
Building CNN model...
Training started (5 epochs)...
Epoch 1 => loss=0.5424, acc=83.30%
Epoch 2 => loss=0.1480, acc=95.66%
Epoch 3 => loss=0.1132, acc=96.47%
Epoch 4 => loss=0.0881, acc=97.26%
Epoch 5 => loss=0.0748, acc=97.69%
Training completed successfully
Testing started...
Final Test Accuracy: 98.57%
Predicted Digit: 5
Visualization
Elements Console Sources Network
Total params: 225034
Trainable params: 225034
Non-trainable params: 0
Training started (5 epochs)...
Epoch 1 => loss=0.5424, acc=83.30%
Epoch 2 => loss=0.1480, acc=95.66%
Epoch 3 => loss=0.1132, acc=96.47%
Epoch 4 => loss=0.0881, acc=97.26%
Epoch 5 => loss=0.0748, acc=97.69%
Training completed successfully
Testing started...
Final Test Accuracy: 98.57%
Predicted Digit: 5
What's new in DevTools 144
See all new features
Type here to search
23°C
ENG
21:12
01-02-2026


MNIST Dense vs CNN (TFJS)
File C:/Users/ACER/Desktop/MLTL/practical2/assignment/task3.html
CNN Epoch 5: loss=0.3301, acc=90.70%
CNN Accuracy: 93.20%
Comparison Completed Successfully
Backend set to CPU
Loading MNIST dataset...
MNIST data loaded successfully
Training Dense Network (5 epochs)
Dense Epoch 1: loss=1.4810, acc=59.50%
Dense Epoch 2: loss=0.5855, acc=85.30%
Dense Epoch 3: loss=0.3960, acc=90.20%
Dense Epoch 4: loss=0.3025, acc=92.70%
Dense Epoch 5: loss=0.2502, acc=95.00%
Dense Accuracy: 95.40%
Training CNN (5 epochs)
CNN Epoch 1: loss=1.9657, acc=40.70%
CNN Epoch 2: loss=1.0282, acc=78.20%
CNN Epoch 3: loss=0.5437, acc=86.40%
CNN Epoch 4: loss=0.3819, acc=90.30%
CNN Epoch 5: loss=0.3109, acc=91.50%
CNN Accuracy: 92.70%
Comparison Completed Successfully
Accuracy Comparison Chart
95.40%
92.70%
Dense
CNN
Console was cleared
MNIST Dense vs CNN Training Started
Backend set to CPU
Loading MNIST dataset...
MNIST data loaded successfully
Training Dense Network (5 epochs)
Dense Epoch 1: loss=1.4810, acc=59.50%
Dense Epoch 2: loss=0.5855, acc=85.30%
Dense Epoch 3: loss=0.3960, acc=90.20%
Dense Epoch 4: loss=0.3025, acc=92.70%
Dense Epoch 5: loss=0.2502, acc=95.00%
Dense Accuracy: 95.40%
Training CNN (5 epochs)
CNN Epoch 1: loss=1.9657, acc=40.70%
CNN Epoch 2: loss=1.0282, acc=78.20%
CNN Epoch 3: loss=0.5437, acc=86.40%
CNN Epoch 4: loss=0.3819, acc=90.30%
CNN Epoch 5: loss=0.3109, acc=91.50%
CNN Accuracy: 92.70%
Comparison Completed Successfully
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