**Day 21 — 17 July 2025 (Thursday)**

**Topic: Performance Visualization — Confusion Matrix & Charts**

We learned to visualize model results using heatmaps, bar charts, and confusion matrices. The trainer emphasized interpreting **True Positives (TP), True Negatives (TN), False Positives (FP), and False Negatives (FN)** to understand real prediction behavior. Visual evaluation gives better insight than accuracy alone. We plotted confusion matrix values and drew a bar chart comparing model accuracy scores.

from sklearn.metrics import confusion\_matrix

import seaborn as sns

cm = confusion\_matrix(y\_test, y\_pred)

sns.heatmap(cm, annot=True)

This helped understand error patterns and real dataset behavior.