**Day 5 — 25 June 2025 (Wednesday)**

**Topic: NumPy — Numerical Computing & Array Operations**

NumPy basics were introduced, including creation of arrays, indexing, slicing, mathematical functions, and reshaping operations. We learned how NumPy enables fast matrix calculations which are essential for ML algorithms like Naïve Bayes and Logistic Regression. The trainer explained broadcasting, vectorized operations, and the difference between Python lists vs NumPy arrays in terms of speed and memory efficiency.

import numpy as np

arr = np.array([2, 4, 6, 8])

print("Mean:", np.mean(arr))

print("Squared:", arr\*\*2)