

Linear Algebra Test Dataset

Matrix Addition:

$$A + B = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} + \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$$

$$\text{Solution: } \begin{bmatrix} 6 & 8 \\ 10 & 12 \end{bmatrix}$$

Determinant of A:

$$\det(A) = (2)(4) - (3)(1) = 5$$

Eigenvalues of A:

$$\text{Solving } \det(A - \lambda I) = 0 \text{ gives } \lambda = 2, 6$$