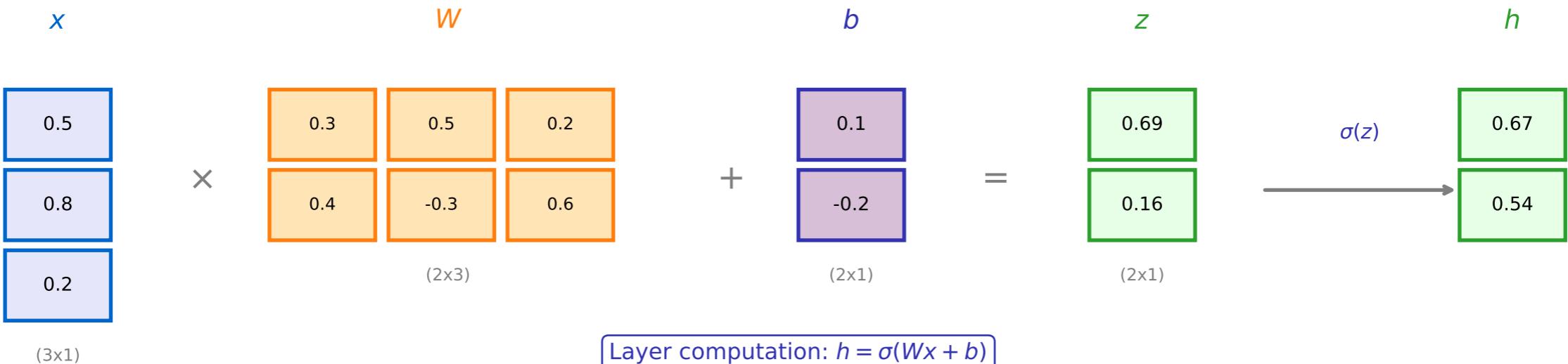


# Neural Network Layer as Matrix Multiplication



## Computation Details

$$\begin{aligned} z_1 &= w_{11}x_1 + w_{12}x_2 + w_{13}x_3 + b_1 = 0.3(0.5) + 0.5(0.8) + 0.2(0.2) + 0.1 = 0.69 \\ z_2 &= w_{21}x_1 + w_{22}x_2 + w_{23}x_3 + b_2 = 0.4(0.5) - 0.3(0.8) + 0.6(0.2) - 0.2 = 0.16 \end{aligned}$$