Weighted Sum: How Inputs Combine

P/E Ratio
$x_1 = 0.8$

$w_1 = 0.5$

$0.8 \times 0.5 = 0.40$

Momentum
$x_2 = 0.6$

$w_2 = 0.3$

$0.6 \times 0.3 = 0.18$

Volume
$x_3 = 0.4$

$w_3 = 0.2$

$0.4 \times 0.2 = 0.08$

Σ

$z = 0.76$

$b = 0.1$

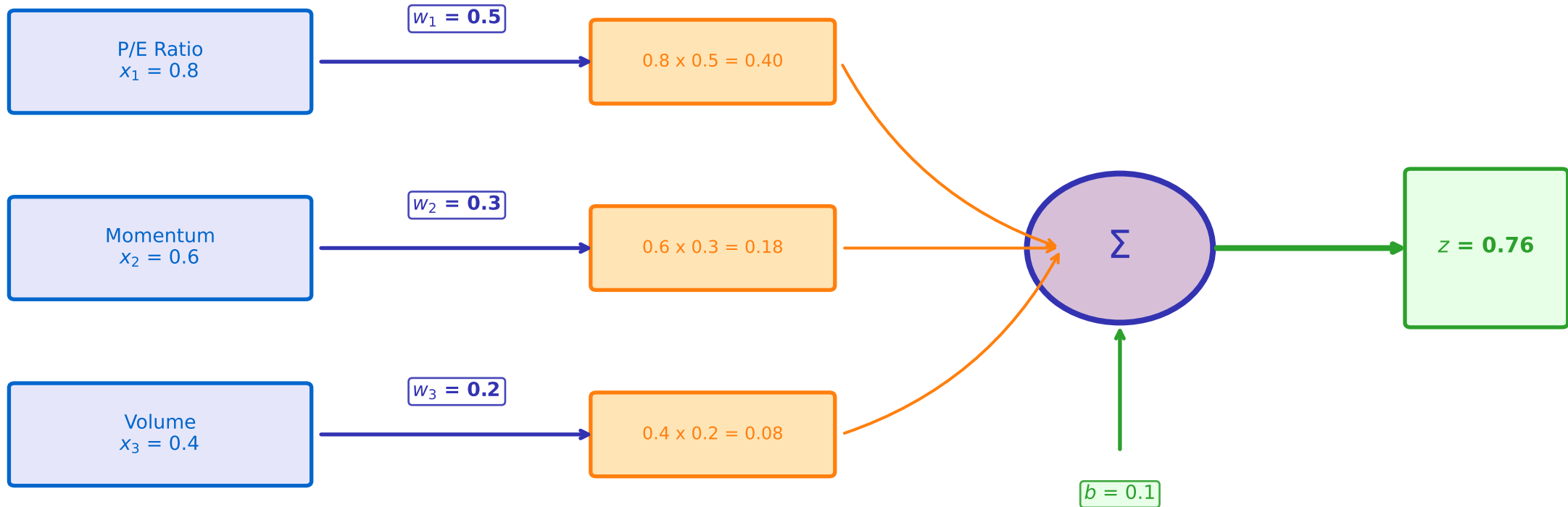*Finance Example: Combining multiple factors to score a stock*

$z = w_1 x_1 + w_2 x_2 + w_3 x_3 + b = 0.5 \times 0.8 + 0.3 \times 0.6 + 0.2 \times 0.4 + 0.1 = 0.76$