Module 1 Summary: The Birth of Neural Computing

Biological Inspiration

McCulloch-Pitts (1943)

Mathematical Model

Weighted sum + threshold

PERCEPTRON

$$y = f(\sum w_i x_i + b)$$

Learning Algorithm

Update weights on errors

Limitations

XOR problem
Not universal

Key Takeaways:
1. Single perceptron = linear classifier
2. Can learn linearly separable patterns
3. Cannot solve XOR (need multiple layers)
4. Foundation for all neural networks

Finance Application: Simple stock screening (buy/sell based on single threshold)

1943	1949	1958	1969	AI Winter
McCulloch-Pitts	Hebb	Perceptron	Minsky-Papert	begins