

Chapter 4 — Neural Networks

A neural network is a function approximator built from layers of weighted connections. Training adjusts those weights by gradient descent so the network maps inputs to the desired outputs. Deep networks stack many such layers, learning hierarchical representations of data.

Chapter 5 — Photosynthesis

Photosynthesis converts light energy into chemical energy. Inside the chloroplast, chlorophyll captures photons and drives the synthesis of glucose from carbon dioxide and water. Oxygen is released as a by-product of the reaction. This process sustains nearly all life on Earth.

Chapter 6 — Supply and Demand

Price emerges where the supply curve meets demand.

When demand rises faster than supply, prices climb until the market clears. Elasticity measures how sharply quantity responds to a change in price. Equilibrium is the point both buyers and sellers can live with.