



Figure 1.1 Artificial Intelligence, machine learning, and deep learning

ANNs = Artificial NEURAL NETWORKS

< SEE NEXT PAGE FOR A BRIEF (super-simplified) SUMMARY OF HOW BIOLOGICAL NEURONS PROCESS INFORMATION >

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Biology

- Neurons respond slowly
 - 10^{-3} s compared to 10^{-9} s for electrical circuits
- The brain uses massively parallel computation
 - $\approx 10^{11}$ neurons in the brain
 - $\approx 10^4$ connections per neuron

The diagram shows a single neuron with several branching structures labeled "Dendrites" at the top left, a central "Cell Body", a long "Axon" extending to the right, and a "Synapse" at the bottom left where the axon meets another neuron.

"ARTIFICIAL NEURON" →

