

# Neural Network Notes

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## 1 Andrej Karpathy: Intro to Neural Networks and Backpropagation, Micrograd Library

- backpropagation is an algorithm that allows you to efficiently evaluate the gradient of a loss function based on the weights of a neural network
- this way, you can tune the weights to improve the neural network accordingly
- going backwards from an ending node, you can take derivatives with respect to child node weights, which are necessary information
- backpropagation is not dependent on neural networks, but neural networks utilise backpropagation
- $h = 0.001$ ,  $a = 2.0$ ,  $b = -3.0$ ,  $c = 10.0$  and take  $d1 = a * b + c$ , then take  $a = 2.0 + h$  and find  $d2 = a * b + c$  which then we can take  $(d2 - d1) / h$  to get the slope with respect to  $a$