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# 1. Objectives

## Feedforward Neural Networks, Back-propagation, and Stochastic Gradient Descent

- Use **back-propagation** and write down **recursive relations** to compute the gradient of the loss function with respect to the weight parameters.
- Use the **stochastic descent algorithm** to train a feedforward neural network.
- Recognize when a network has **overcapacity**.

## Discussion

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**Topic:** Unit 3 Neural networks (2.5 weeks):Lecture 9. Feedforward Neural Networks, Back Propagation, and Stochastic Gradient Descent (SGD) / 1. Objectives