Congratulations! You've completed Week 3 Start Week 4

Shallow neural networks

Learn to build a neural network with one hidden layer, using forward propagation and backpropagation.

Learning Objectives

Understand hidden units and hidden layers

Be able to apply a variety of activation functions in a neural network.

Build your first forward and backward propagation with a hidden layer

Apply random initialization to your neural network

Become fluent with Deep Learning notations and Neural Network Representations

Build and train a neural network with one hidden layer.

Less

Shallow Neural Network

- Neural Networks Overview 4 min
- Neural Network Representation 5 min

- Computing a Neural Network's Output 9 min
- Vectorizing across multiple examples 9 min
- Explanation for Vectorized Implementation 7 min
- Activation functions 10 min
- Why do you need non-linear activation functions? 5 min
- Derivatives of activation functions 7 min
- Gradient descent for Neural Networks 9 min
- Backpropagation intuition (optional) 15 min
- Random Initialization 7 min

Practice Questions

- **Quiz:** Shallow Neural Networks 10 questions

Programming Assignment

- ✓ Planar data classification with a hidden layer 2h 30m
- ✓ **Programming Assignment:** Planar data classification with a hidden layer

Heroes of Deep Learning (Optional)

- ● Ian Goodfellow interview 14 min