Assignments Overdue: You can still pass! Remember, you need to pass these assignments before the course ends on September 17, 11:59 PM PDT.

THIS WEEK'S FORUM

Week 2

Discuss this week's modules here.

Go to forum

Neural Networks Basics

Andrew Ng

Learn to set up a machine learning problem with a neural network mindset. Learn to use vectorization to speed up your models.

Learning Objectives

Build a logistic regression model, structured as a shallow neural network

Implement the main steps of an ML algorithm, including making predictions, derivative computation, and gradient descent.

Implement computationally efficient, highly vectorized, versions of models.

Understand how to compute derivatives for logistic regression, using a backpropagation mindset.

Become familiar with Python and Numpy

Work with iPython Notebooks

Be able to implement vectorization across multiple training examples

Less

Logistic Regression as a Neural Network

- Binary Classification 8 min
- Logistic Regression 5 min
- Logistic Regression Cost Function 8 min
- Gradient Descent 11 min
- Derivatives 7 min
- More Derivative Examples 10 min
- Computation graph 3 min
- Derivatives with a Computation Graph 14 min
- Logistic Regression Gradient Descent 6 min
- Gradient Descent on m Examples 8 min

Python and Vectorization

- Vectorization 8 min
- More Vectorization Examples 6 min
- Vectorizing Logistic Regression 7 min
- Vectorizing Logistic Regression's Gradient Output 9 min

Broadcasting in Python 11 min

A note on python/numpy vectors 6 min

Quick tour of Jupyter/iPython Notebooks 3 min

Explanation of logistic regression cost function (optional) 7 min

Practice Questions

Quiz:
Neural Network Basics 10 questions Due August 27, 11:59 PM PDT

Programming Assignments

Deep Learning Honor Code 2 min

Programming Assignment FAQ 10 min

Python Basics with numpy (optional) 1h

Practice Programming Assignment:
Python Basics with numpy (optional) 1h

Logistic Regression with a Neural Network mindset 2h

Programming Assignment:
Logistic Regression with a Neural Network mindset
Due August 27, 11:59 PM PDT

Heroes of Deep Learning (Optional)

Pieter Abbeel interview 16 min