

Logistic Regression as a Neural Network

Python and Vectorization

- ✓ **Video:** Vectorization
8 min
- ✓ **Video:** More Vectorization Examples
6 min
- 📖 **Reading:** Clarification of "dz"
10 min
- ✓ **Video:** Vectorizing Logistic Regression
7 min
- ✓ **Video:** Vectorizing Logistic Regression's Gradient Output
9 min
- ▶ **Video:** Broadcasting in Python
11 min
- ▶ **Video:** A note on python/numpy vectors
6 min
- ▶ **Video:** Quick tour of Jupyter/iPython Notebooks
3 min
- ▶ **Video:** Explanation of logistic regression cost function (optional)
7 min

- ✓ **Quiz:** Neural Network Basics
10 questions

Programming Assignments

- ✓ **Reading:** Deep Learning Honor Code
2 min
- 📖 **Reading:** Programming Assignment FAQ
10 min
- ✓ **Notebook:** Python Basics with numpy (optional)
1h
- ✓ **Practice Programming Assignment:** Python Basics with numpy (optional)
1h
- ✓ **Notebook:** Logistic Regression with a Neural Network mindset
2h
- ✓ **Programming Assignment:** Logistic Regression with a Neural Network mindset

Heroes of Deep Learning (Optional)

Welcome to the first (required) programming exercise of the deep learning specialization. In this notebook you will build your first image recognition algorithm. You will build a cat classifier that recognizes cats with 70% accuracy!



As you keep learning new techniques you will increase it to 80+ % accuracy on **cat vs. non-cat** datasets. By completing this assignment you will:

- Work with logistic regression in a way that builds intuition relevant to neural networks.
- Learn how to minimize the cost function.
- Understand how derivatives of the cost are used to update parameters.

Take your time to complete this assignment and make sure you get the expected outputs when working through the different exercises. In some code blocks, you will find a "#GRADED FUNCTION: functionName" comment. Please do not modify these comments. After you are done, submit your work and check your results. You need to score 70% to pass. Good luck :) !

[Open Notebook](#)