



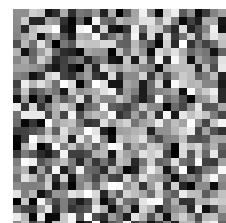
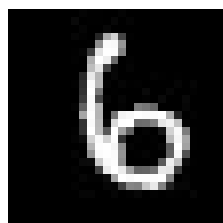
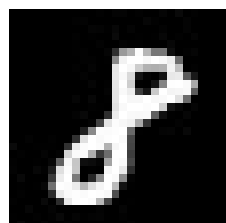
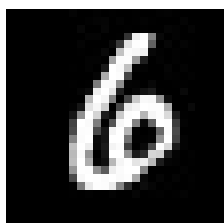
[Curso](#) > [Unit 3 Neural networks \(2.5 weeks\)](#) > [Project 3: Digit recognition \(Part 2\)](#) >
1. Introduction

El acceso de auditoría vence el Sep 22, 2019

Perderás el acceso a este curso, incluido tu progreso, el Sep 22, 2019.

1. Introduction

Your friends now want you to try implementing a neural network to classify MNIST digits.



Setup:

As with the last project, please use Python's **NumPy** numerical library for handling arrays and array operations; use **matplotlib** for producing figures and plots.

1. *Note on software: For all the projects, we will use python 3.6 augmented with the NumPy numerical toolbox, the matplotlib plotting toolbox. For THIS project, you will also be using PyTorch for implementing the Neural Nets and **scipy** to handle sparse matrices.*
2. Download [mnist.tar.gz](#) and untar it in to a working directory. The archive contains the various data files in the Dataset directory, along with the following python files:

- `part2-nn/neural_nets.py` in which you'll implement your first neural net from scratch
- `part2-mnist/nnet_fc.py` where you'll start using PyTorch to classify MNIST digits
- `part2-mnist/nnet_cnn.py` where you will use convolutional layers to boost performance
- `part2-twodigit/mlp.py` and `part2-twodigit/cnn.py` which are for a new, more difficult version of the MNIST dataset

Tip: Throughout the whole online grading system, you can assume the NumPy python library is already imported as `np`. In some problems you will also have access to python's `random` library, and other functions you've already implemented. Look out for the "Available Functions" Tip before the codebox, as you did in the last project.

This project will unfold both on MITx and on your local machine. However, we encourage you to first implement the functions locally. For this project, there will not be a `test.py` script. You are encouraged to think of your own test cases to make sure your code works as you expected before submitting it to the online grader.

Tip: You may work through the Pytorch tutorial in [Introduction to ML Packages \(Part 2\)](#) (posted in the resource section).

Discusión

Ocultar Discusión

Tema: Unit 3 Neural networks (2.5 weeks):Project 3: Digit recognition (Part 2) / 1. Introduction

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por actividad reciente

- ? [\[STAFF\] Midterm exam deadline: email received July 26 says Aug 7, but exam itself in Edx Progression tab says Aug 5 early morning](#)
[In advance thank you for clarification of the correct actual deadline :\) Kind regards](#)

7

?	URGENT!!!! [STAFF]	1
	URGENT!!!! [STAFF] @karenechu and course team: I took several courses and I had several ex...	
?	***[STAFF]*** Help	1
	Hi, this might be a stretch but is it possible to please give me some extra time for this project?...	
?	[Staff] Extension to weekend	2
	Can you please extend the project to the weekend? I'm newer to python and programming in ...	
?	Is it possible to make the grader work even after the deadline ? Maybe getting 0 points ?	1
	I can't possibly finish the project today, but if possible I would very much try to finish it saturd...	
?	Very difficult to finish during work week :(4
	I don't think I am able to work on the project well prior to the deadline, it would be nice if I ca...	
💬	Need Help with project	1
	Hi every body I'm really new to python programming and I needed help with this project I can...	
💬	deadline extention	37
	dear staff would you please extend the deadline of this project for two days we have an exam...	
?	[staff] Posting here as it may be more visible - grader points on questions have changed.	6
	Can staff address this? The full total is showing on the progress but all for the train / test part...	
💬	Tensorflow	8
	Why not tensorflow?	
?	training with .backward() gradients	3
💬	OSError	5
	I have been running Python until recently when I have encountered the error > OSError: [Win...	
💬	[STAFF] Midterm scope	5
	Does mid-term scope includes L-12, Project-3? If not, can we push end date for these (esp. L-1...	
✓	[P3 - Introduction][Typo?] cnn.py	2