

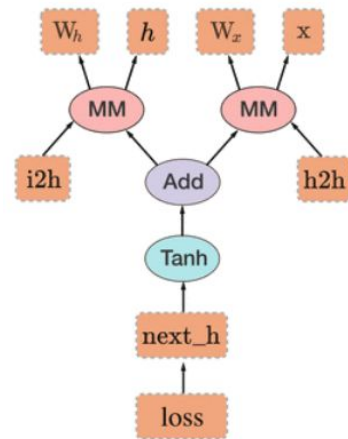
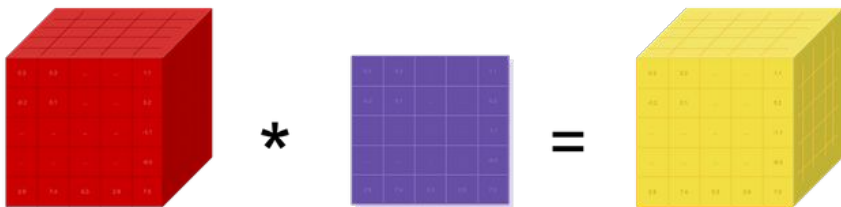
PyTorch 부트캠프

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PyTorch란?

- 두 가지 기능을 가진 파이썬 패키지
 1. 계산 패키지(=NumPy + GPU)
 2. 딥러닝 패키지 (=TensorFlow)



PyTorch

1. 코드 내에서 CPU/GPU 사용을 설정함
2. TensorBoard만한 툴이 공식적으로는 없음
3. Dynamic computational graphs
4. 디버깅 쉬움
5. 다양한 장치에 배포하려면 API 제작 필요
6. 멀티GPU 설정이 매우 쉬움
7. 큰 커뮤니티지만 TensorFlow보다는 작음

→ 연구에 적합

TensorFlow

1. CPU/GPU 전용 버전 따로 존재함
2. TensorBoard
3. Static computational graphs
4. 디버깅 어려움
5. 다양한 장치에 배포 가능
6. 멀티GPU 설정이 어렵지만 튜닝 가능
7. 가장 큰 커뮤니티

→ 배포에 적합



Andrej Karpathy ✓

@karpathy

Follow



I've been using PyTorch a few months now and I've never felt better. I have more energy. My skin is clearer. My eye sight has improved.

2:56 PM - 26 May 2017

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32



385



1.5K



PyTorch 설치

- [conda 설치](#)
- <https://pytorch.org/> 로 가서 올바른 커맨드 찾고 설치
- CUDA 버전을 모를 경우 `cat /usr/local/cuda/version.txt` 또는 `nvcc -V` 로 확인

Get Started.

Select your preferences, then run the PyTorch install command.

Please ensure that you are on the latest pip and numpy packages.
Anaconda is our recommended package manager

OS	<input checked="" type="radio"/> Linux	<input type="radio"/> MacOS	<input type="radio"/> Windows	
Package Manager	<input checked="" type="radio"/> conda	<input type="radio"/> pip	<input type="radio"/> Source	
Python	<input type="radio"/> 2.7	<input type="radio"/> 3.5	<input checked="" type="radio"/> 3.6	
CUDA	<input type="radio"/> 8	<input type="radio"/> 9.0	<input type="radio"/> 9.1	<input checked="" type="radio"/> None

Run this command:

```
conda install pytorch-cpu torchvision-cpu -c pytorch
```

[Click here for previous versions of PyTorch](#)

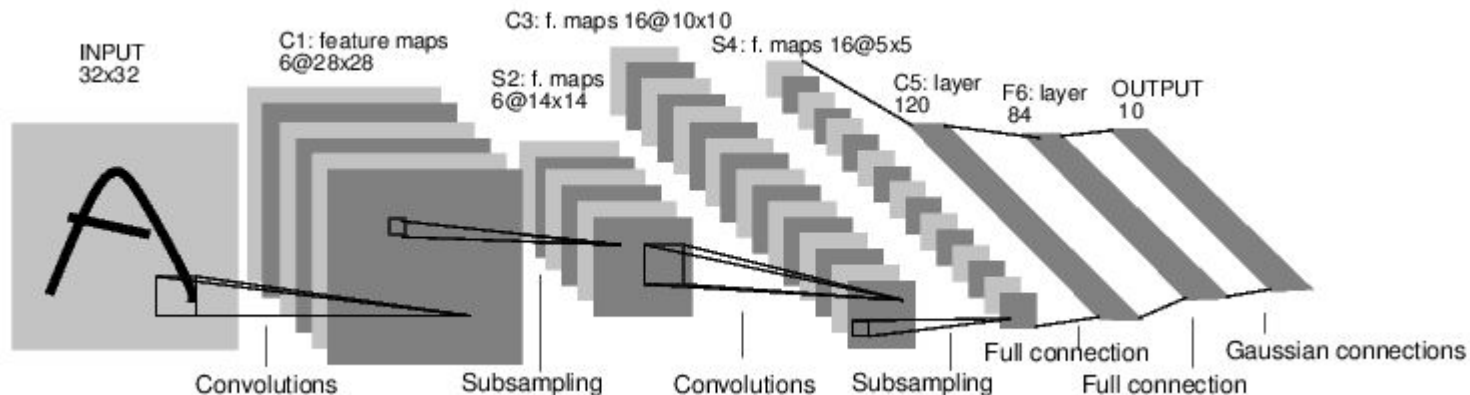
PyTorch 튜토리얼

- [PyTorch 60 Minute Blitz](#)
- [PyTorch DQN Tutorial](#)
- [PyTorch 0.4.0 Migration Guide](#)

Package	Description
torch	a Tensor library like NumPy, with strong GPU support
torch.autograd	a tape based automatic differentiation library that supports all differentiable Tensor operations in torch
torch.nn	a neural networks library deeply integrated with autograd designed for maximum flexibility
torch.optim	an optimization package to be used with torch.nn with standard optimization methods such as SGD, RMSProp, LBFGS, Adam etc.
torch.multiprocessing	python multiprocessing, but with magical memory sharing of torch Tensors across processes. Useful for data loading and hogwild training.
torch.utils	DataLoader, Trainer and other utility functions for convenience
torch.legacy(.nn/.optim)	legacy code that has been ported over from torch for backward compatibility reasons

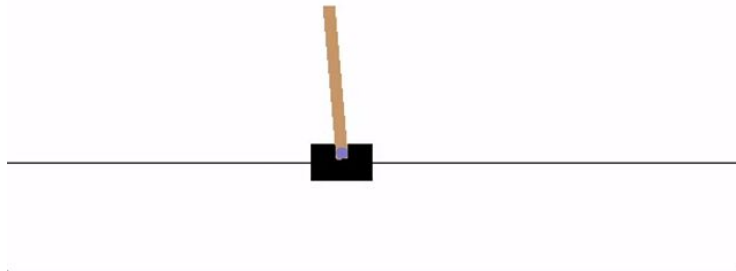
PyTorch 60 Minute Blitz

- Image Classifier를 만드는 예제
- 가장 중요한 모듈들을 소개 (`torch.nn`, `torch.optim`, `torch.autograd`)



PyTorch DQN Tutorial

- PyTorch를 이용해 Deep Q-Network 구현
- OpenAI Gym의 CartPole 환경
 - 화면을 observation으로 받음



PyTorch 0.4.0 Migration Guide

- 2018년 4월 22일: PyTorch 0.4.0 출시
- Legacy code를 읽기 전에 꼭 살펴봐야 함
 - `Tensors` and `Variables` have merged
 - Support for 0-dimensional (scalar) `Tensors`
 - Deprecation of the `volatile` flag
 - `dtypes`, `devices`, and Numpy-style `Tensor` creation functions
 - Writing device-agnostic code
 - New edge-case constraints on names of submodules, parameters, and buffers in `nn.Module`