Understanding PyTorch from Basics

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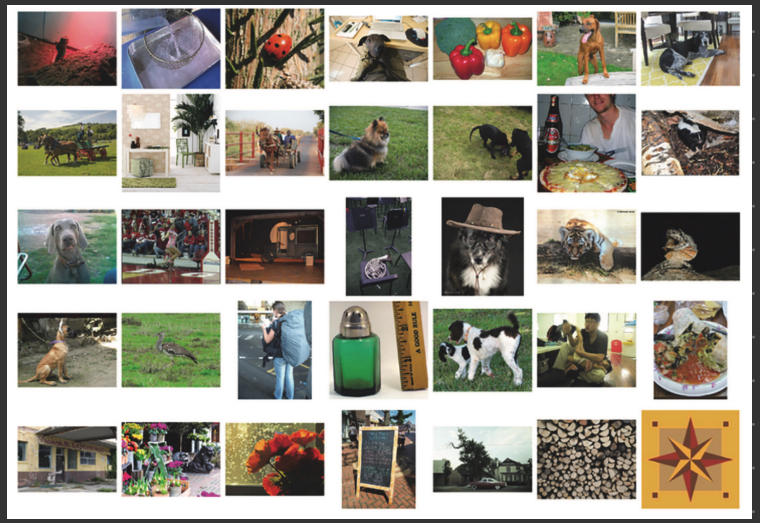
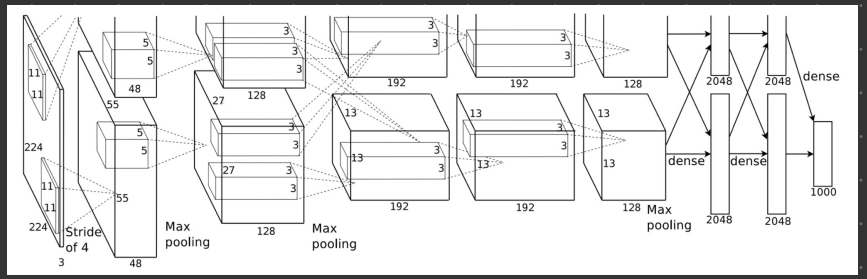
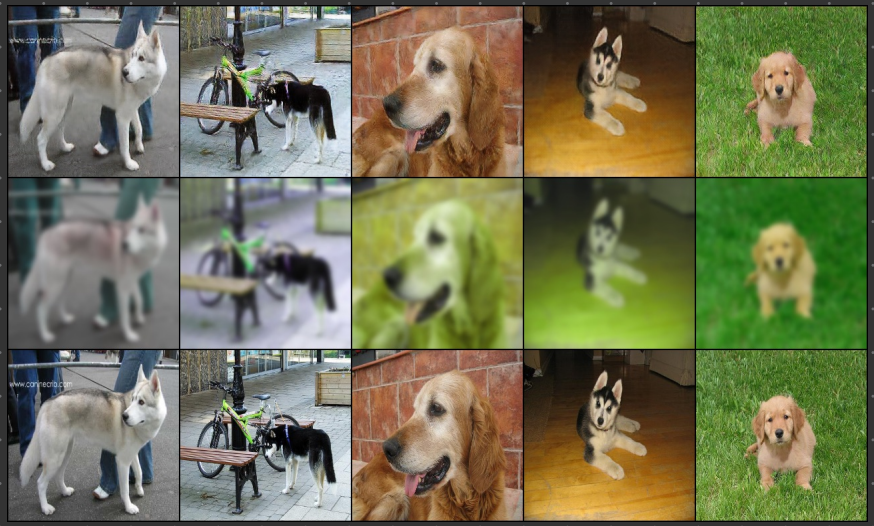
ImageNet Large Scale Visual Recognition Challenge



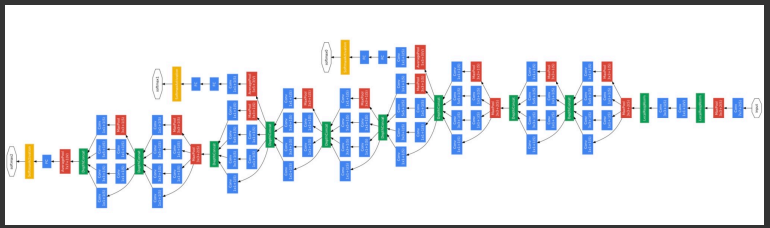


First CNN that won

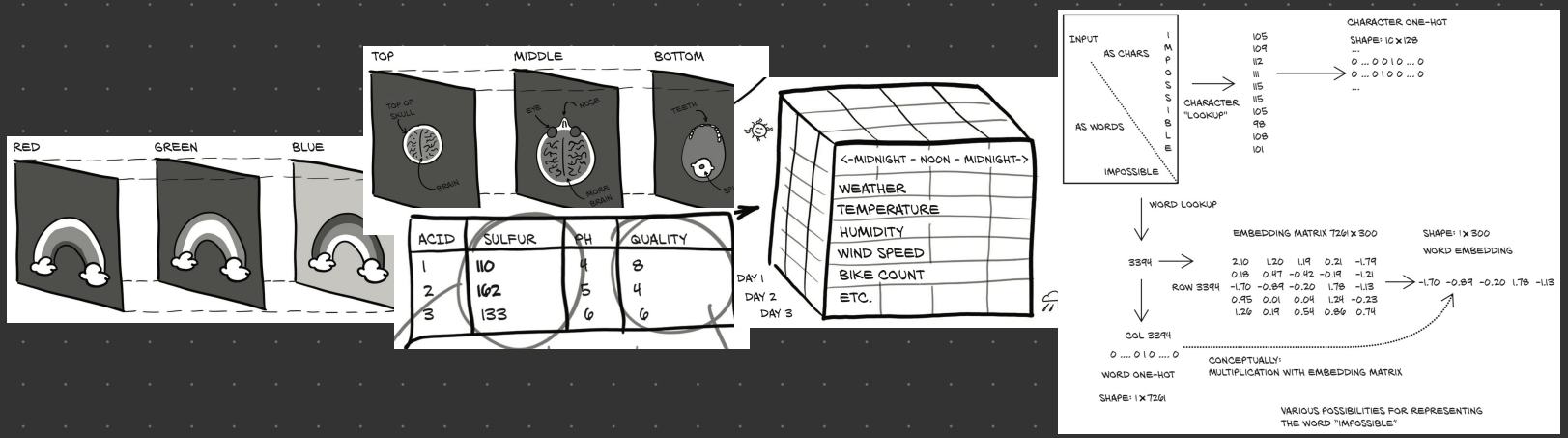
Image2Image Translation GAN

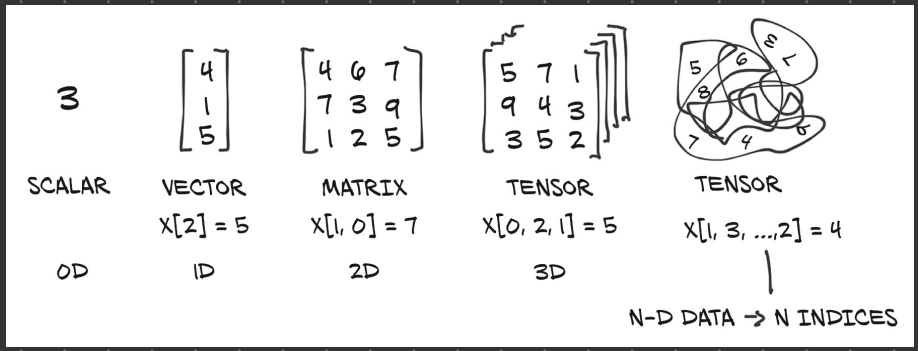


Google's Breakthrough



Real World Data





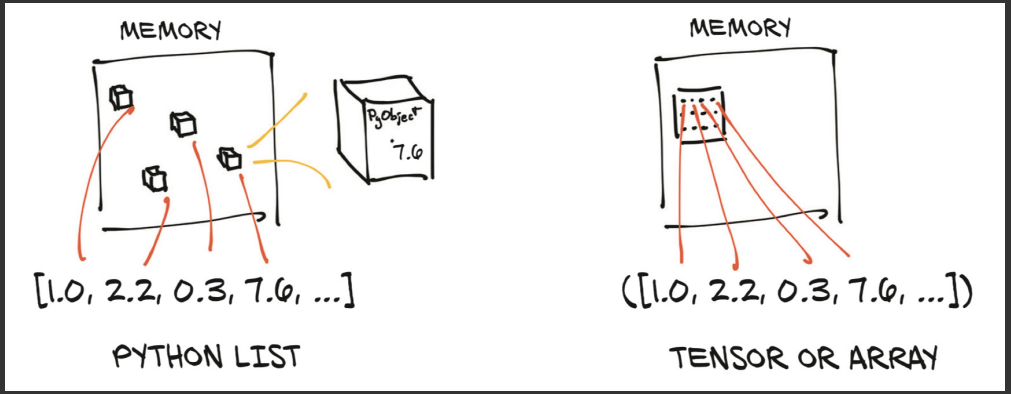
Tensor API

1. Create tensors from NumPy
2. Indexing, slicing, etc.
3. Maths operations like BLAS, etc
4. Serialisation

and many more ...

Why is Python sub-optimal for Deep Learning ?

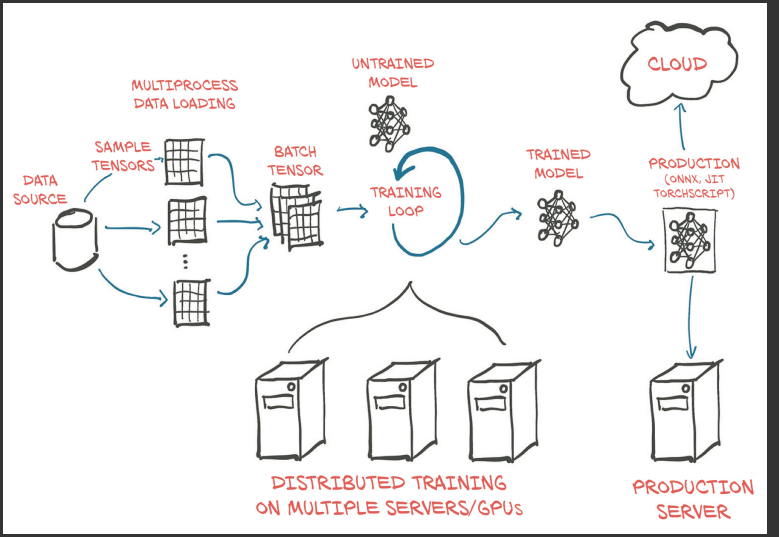
1. Floating-point number stored in Python consumes more memory
2. Python Lists are not contiguous
3. Computations in Python are slow, as compared to C

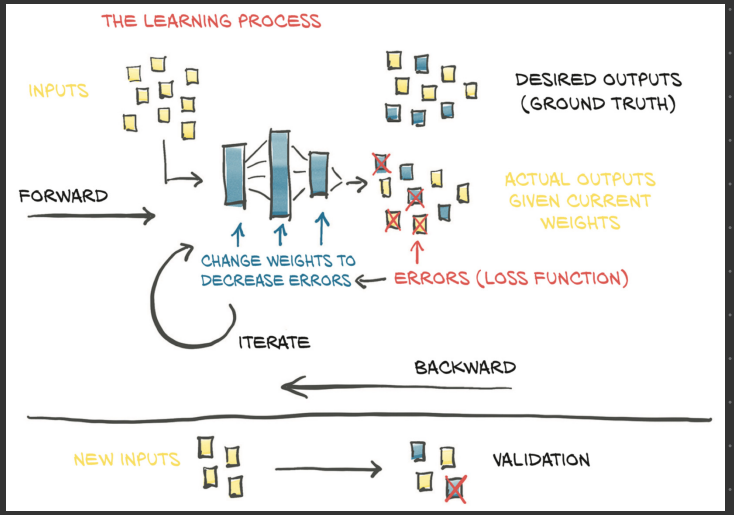


How does PyTorch help?

1. A tensor once created, takes up memory only once
2. Values in a tensor are stored next to one another in Storage
3. It is built on top of C++ and CUDA code

High Level Overview of a Deep Learning project





Training a raw model

Computational Graphs