[320] GPUs and pytorch

Tyler Caraza-Harter
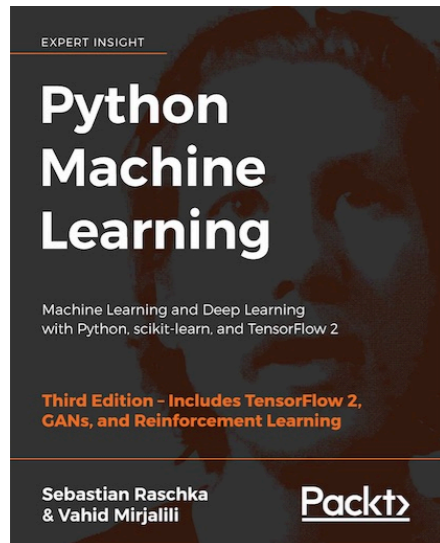
PyTorch is like numpy, but...

1   easy to move matrices to GPU and do operations there

2   easy to compute gradients (derivatives evaluated at specific points), for optimizations

3   easy to construct deep-learning neural networks

https://pytorch.org/tutorials/

GPU vs. CPU

advice: compare hardware based on cost, and benchmarks measuring how fast some specific type of work can be done

Specifications	Intel® Core™ i7-6900K Processor Extreme Ed.	NVIDIA GeForce® GTX™ 1080 Ti
Base Clock Frequency	3.2 GHz	< 1.5 GHz
Cores	8	3584
Memory Bandwidth	64 GB/s	484 GB/s
Floating-Point Calculations	409 GFLOPS	11300 GFLOPS
Cost	~ $1000.00	~ $700.00

https://sebastianraschka.com/books.html

The GPU is 30% cheaper but 28x faster at floating-point operations!