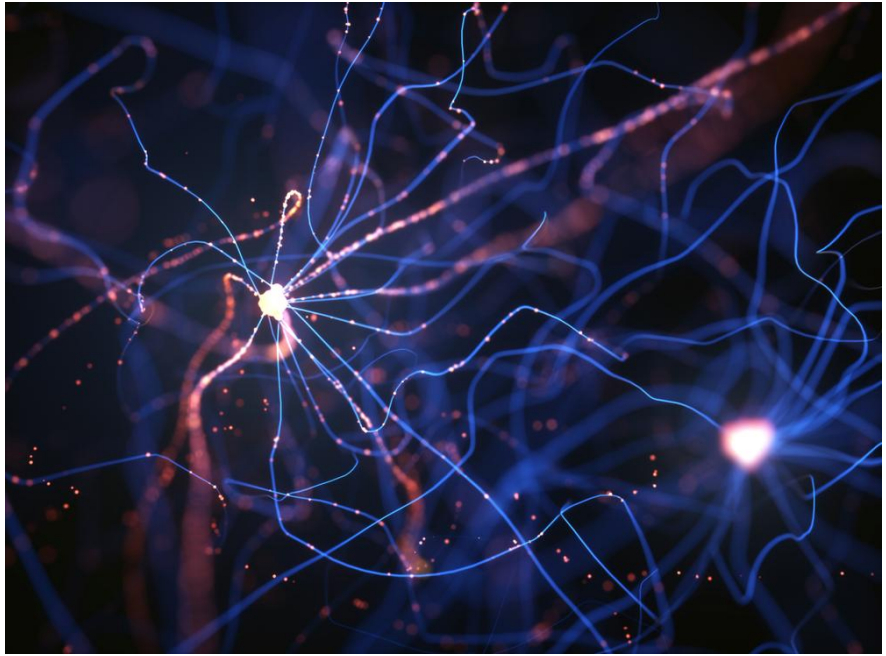
Fundamentals of Deep Learning



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Hardware for Computations in Deep Learning

Difference between CPU and GPU

Difference between CPU and GPU

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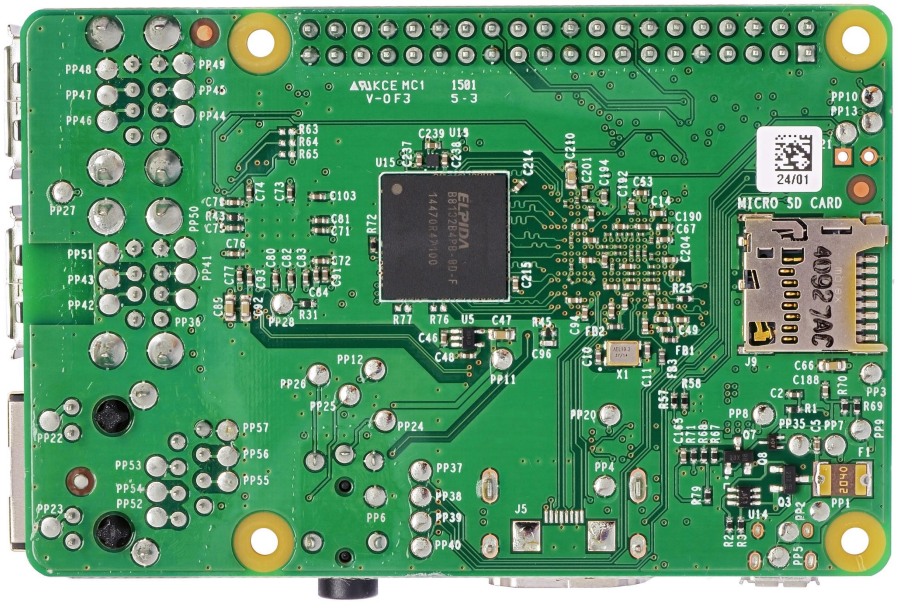
Difference between CPU and GPU

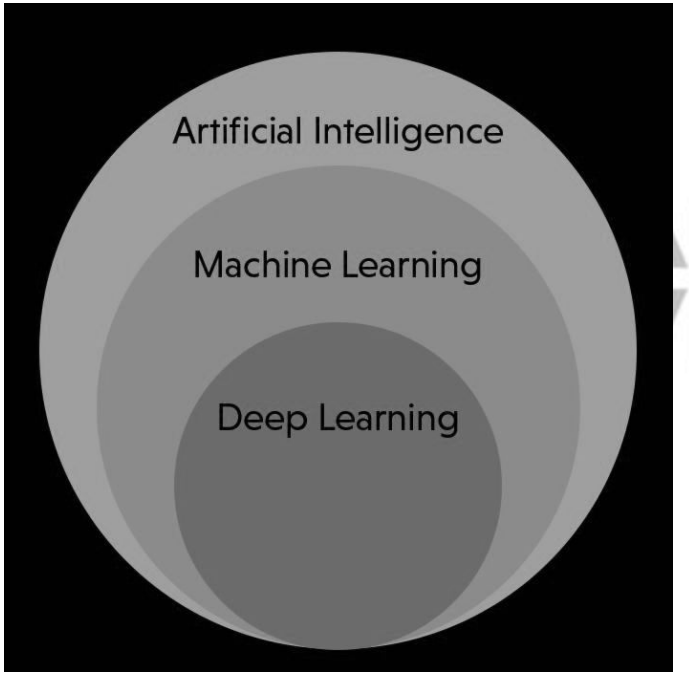
Difference between CPU and GPU

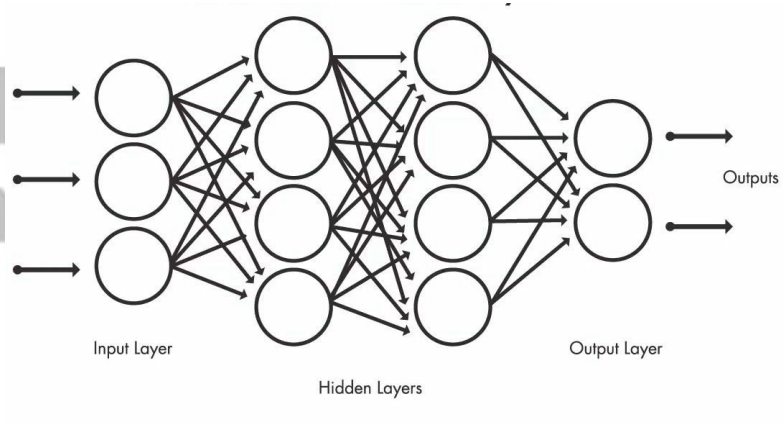
Deep Learning requires different Hardware



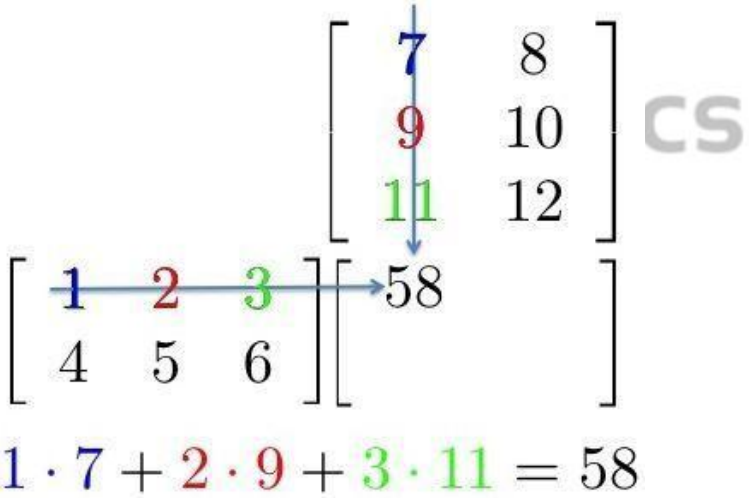
Deep Learning requires different Hardware

Deep Learning requires Hardware





Deep Learning requires Hardware

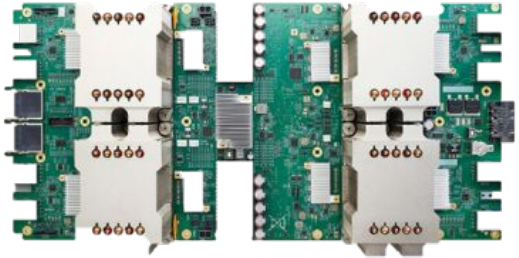


$$1 \cdot 7 + 2 \cdot 9 + 3 \cdot 11 = 58$$

Deep Learning requires Hardware

CPU

GPU



TPU

Difference between CPU and GPU

CPU	GPU

Difference between CPU and GPU

CPU	GPU
Few complex cores	
Focuses on doing one task as efficiently as possible	
Used for general purpose tasks	

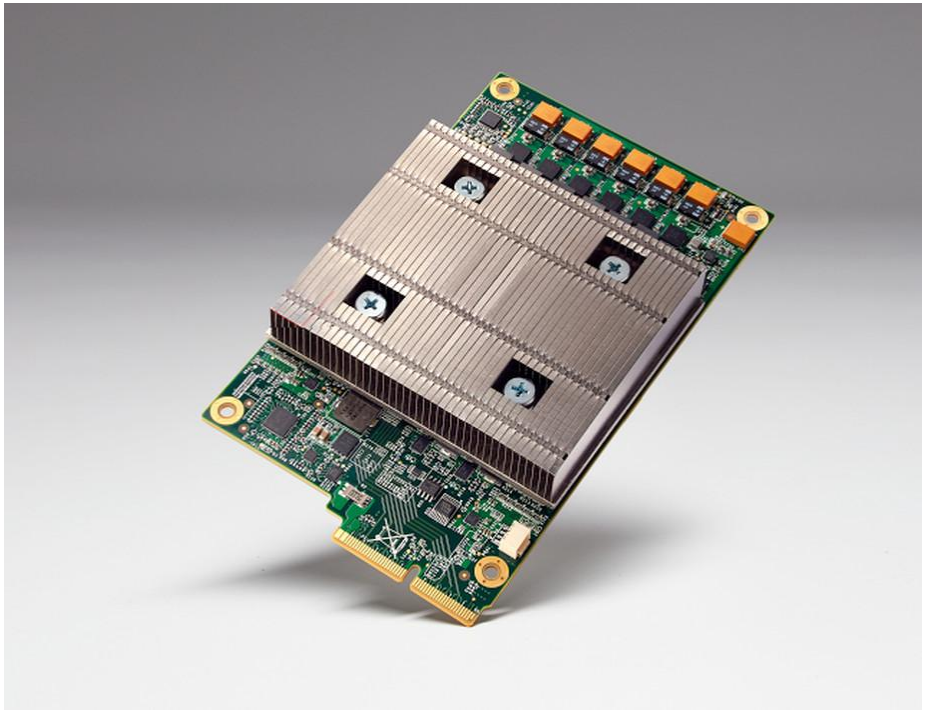
Difference between CPU and GPU

CPU	GPU
Few complex cores	Hundreds of simpler cores
Focuses on doing one task as efficiently as possible	Focuses on doing various tasks parallely
Used for general purpose tasks	Used for graphics processing or matrix multiplication

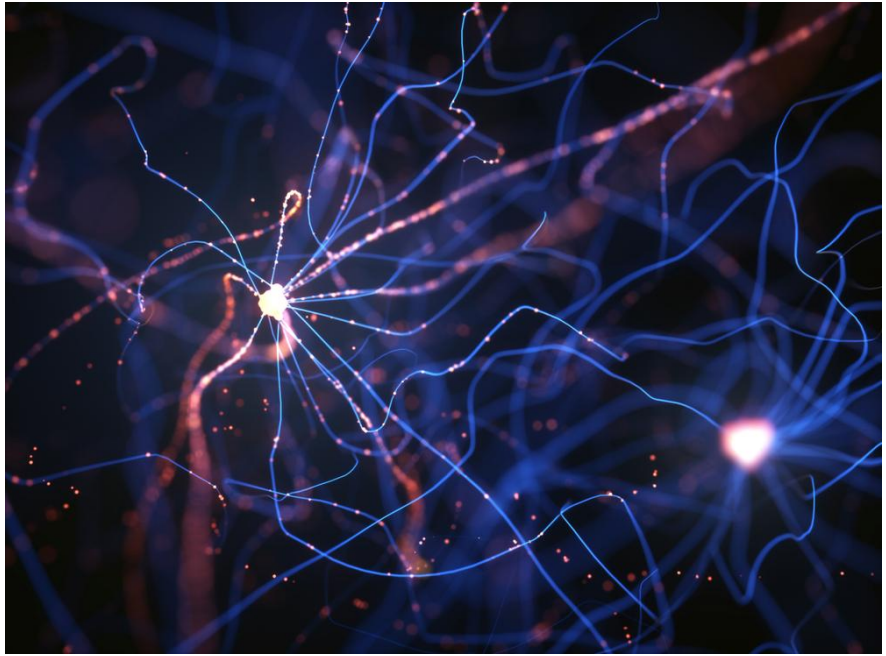
Difference between CPU and GPU

CPU	GPU
Intel® Core™ i7-10510U Processor	NVIDIA GTX 1080 Ti
4 cores	3584 cores
	

TPUs as an emerging hardware



Thank You



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