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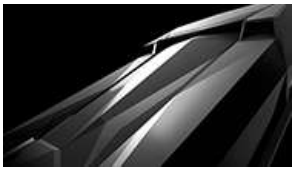

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WHAT IS GPU-ACCELERATED COMPUTING?

GPU-ACCELERATED COMPUTING IS THE USE OF A GRAPHICS PROCESSING UNIT (GPU) TOGETHER WITH A CPU TO ACCELERATE DEEP LEARNING, ANALYTICS, AND ENGINEERING APPLICATIONS. PIONEERED IN 2007 BY NVIDIA, GPU ACCELERATORS NOW POWER ENERGY-EFFICIENT DATA CENTERS IN GOVERNMENT LABS, UNIVERSITIES, ENTERPRISES, AND SMALL-AND-MEDIUM BUSINESSES AROUND THE WORLD. THEY PLAY A HUGE ROLE IN ACCELERATING APPLICATIONS IN PLATFORMS RANGING FROM ARTIFICIAL INTELLIGENCE TO CARS, DRONES, AND ROBOTS.

HOW GPUs ACCELERATE SOFTWARE APPLICATIONS

GPU-ACCELERATED COMPUTING OFFLOADS COMPUTE-INTENSIVE PORTIONS OF THE APPLICATION TO THE GPU, WHILE THE REMAINDER OF THE CODE STILL RUNS ON THE CPU. FROM A USER'S PERSPECTIVE, APPLICATIONS SIMPLY RUN MUCH FASTER.

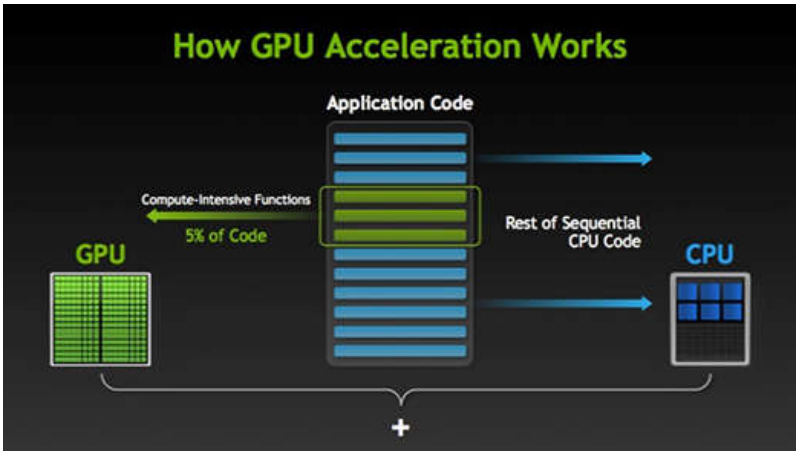
GET STARTED TODAY

There are three basic approaches to adding GPU acceleration to your applications:

- Dropping in GPU-optimized libraries
- Adding compiler "hints" to auto-parallelize your code
- Using extensions to standard languages like C and Fortran

LEARNING HOW TO USE GPUS WITH THE CUDA PARALLEL PROGRAMMING MODEL IS EASY.

FOR FREE ONLINE CLASSES AND DEVELOPER RESOURCES VISIT CUDA ZONE.

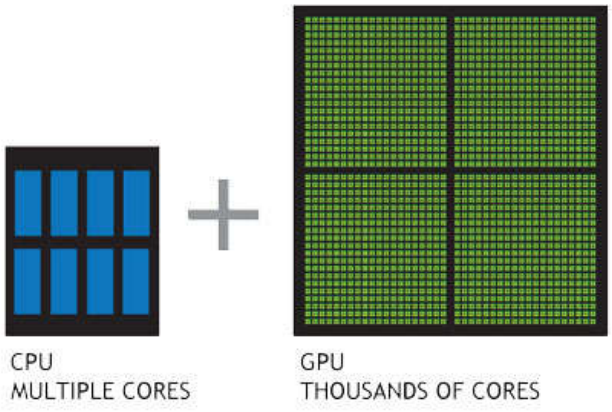


VISIT CUDA ZONE

GPU vs CPU Performance

A SIMPLE WAY TO UNDERSTAND THE DIFFERENCE BETWEEN A GPU AND A CPU IS TO COMPARE HOW THEY PROCESS TASKS. A CPU CONSISTS OF A FEW CORES OPTIMIZED FOR SEQUENTIAL SERIAL PROCESSING WHILE A GPU HAS A MASSIVELY PARALLEL ARCHITECTURE CONSISTING OF THOUSANDS OF SMALLER, MORE EFFICIENT CORES DESIGNED FOR HANDLING MULTIPLE TASKS SIMULTANEOUSLY.

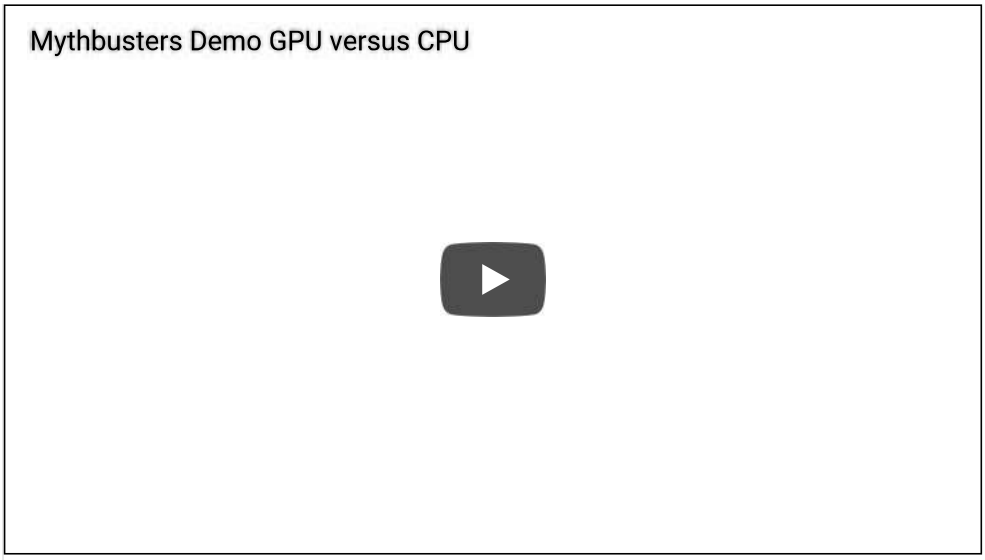
GPUS HAVE THOUSANDS OF CORES TO PROCESS PARALLEL WORKLOADS EFFICIENTLY



CHECK OUT THE VIDEO CLIP BELOW FOR AN ENTERTAINING GPU VERSUS CPU

VIDEO: MYTHBUSTERS DEMO: GPU VS CPU (01:34)

WITH OVER 500 HPC APPLICATIONS ACCELERATED—INCLUDING 15 OUT OF TOP 15—ALL GPU USERS CAN EXPERIENCE DRAMATIC THROUGHPUT BOOST FOR THEIR WORKLOADS. FIND OUT IF THE APPLICATIONS YOU USE ARE GPU-ACCELERATED IN OUR APPLICATION CATALOG (PDF 548 KB).



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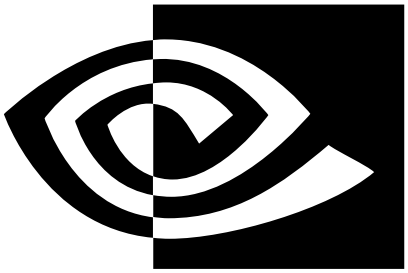

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