

GPGPU - General Purpose Graphics Processing Unit

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Recently, graphics processing units (GPUs) have reached a level of programmability which is comparable to conventional general purpose CPUs. However, they have an up to tenfold higher performance than a conventional processor at similar price and power consumption. This performance is achieved by a special, massively parallel architecture, which puts strong constraints on efficient algorithms. This talk introduces the basic architecture of current GPUs and the NVIDIA CUDA GPU interface. It will also show what constraints algorithms have to fulfill to make use of the GPUs' processing power.