



GPGPU Programming for Games and Science

By David H. Eberly

Taylor & Francis Inc. Hardback. Book Condition: new. BRAND NEW, GPGPU Programming for Games and Science, David H. Eberly, An In-Depth, Practical Guide to GPGPU Programming Using Direct3D 11 GPGPU Programming for Games and Science demonstrates how to achieve the following requirements to tackle practical problems in computer science and software engineering: * Robustness * Accuracy * Speed * Quality source code that is easily maintained, reusable, and readable The book primarily addresses programming on a graphics processing unit (GPU) while covering some material also relevant to programming on a central processing unit (CPU). It discusses many concepts of general purpose GPU (GPGPU) programming and presents practical examples in game programming and scientific programming. The author first describes numerical issues that arise when computing with floating-point arithmetic, including making trade-offs among robustness, accuracy, and speed. He then shows how single instruction multiple data (SIMD) extensions work on CPUs since GPUs also use SIMD. The core of the book focuses on the GPU from the perspective of Direct3D 11 (D3D11) and the High Level Shading Language (HLSL). This chapter covers drawing 3D objects; vertex, geometry, pixel, and compute shaders; input and output resources for shaders; copying data between CPU and GPU;...



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