JRT

Introduces AccelerEyes Jacket

for MATLAB - Accelerate Your Code up to 100x in Minutes

Simple Software Powerful Visual Computing

James River Technical and AccelerEyes

James River Technical and AccelerEyes have partnered together to bring you the latest from AccelerEyes, Jacket, the GPU acceleration engine for MATLAB®.

Jacket implements a user friendly methodology for seamlessly harnessing the power of CUDA compatible GPUs and GPGPUs from NVIDIA. This allows MATLAB users to avoid having to learn the intricacies of CUDA resulting in significantly faster execution and implementation times - upwards of 100x by accessing the power of the GPU directly

Built on NVIDIA CUDA Technology

AccelerEyes' first product, Jacket, is applicable to all users across all major HPC disciplines and industries, such as the automotive, financial, medical, and seismic industries. Further, Jacket's Graphics Toolbox enables true Visual Computing, seamlessly by merging the compute power of CUDA with OpenGL visualizations.

The Product

Jacket enables standard MATLAB code to run on the GPU through the introduction of new MATLAB data types, and libraries of function sets. Jacket provides transparent integration of MATLAB's CPU-based functions with CUDA-based functions. It includes automated and optimized memory transfers and kernel configurations and uses a compile on-the-fly system that allows GPU functions to run in MATLAB's interpretive style. Jacket brings the speed and visual computing capability of the GPU to MATLAB programs. The end result is that Jacket lowers the barrier to entry to GPU computing for programmers, while delivering optimized of CUDA performance. Within minutes of download, programmers who have never attempted GPU computing are able to start running MATLAB code on the GPU. A free beta version of Jacket and the Graphics Toolbox is currently available by visiting the AccelerEyes web site at www.accelereyes.com.

Jacket will also become available on Velocity Micro machines in the near future.

Speed

Jacket-enabled programs tap into the parallel computing power of the GPU.

User Friendly

Jacket is not another GPU API. Rather it GPU-enables standard MATLAB® code.

Visualization

Jacket's Graphics Toolbox brings the full power of OpenGL graphics to MATLAB code.

SIMPLE
Software
POWERFUL
Visual
Computing

JRT - Continuing to address customers' growing demands for innovative and cost-efficient High Performance Computing solutions.

Please email JRT ISG Sales at jfettig@jrti.com, or contact Jeff Fettig at 404.550.1081 for more information. You can also visit us on the web at www.jrti.com/contacts.html for all HPC computing solutions. For quotes, please contact Joseph Rittenberry, joseph@jrti.com.

Products

Jacket

Jacket makes GPU computing ridiculously easy. Jacket enables scientists and engineers to continue programming in the familiar MATLAB environment while it transparently offloads computation onto the GPU.

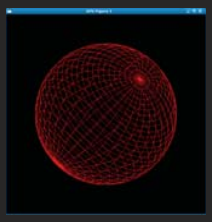
Developers simply mark data, via casting operations, which they want to be computed on the GPU. Beyond that, their MATLAB code can remain untouched.

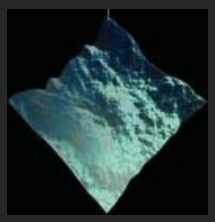
Jacket is built around a runtime system which manages the execution of data parallel tasks. By leveraging the M-Language, Jacket achieves data parallelism efficiently with minimal changes to existing code bases. Jacket optimally configures kernels to run on SIMD hardware and automatically minimizes memory transfers between separate hardware devices. Jacket also takes advantage of hardware-specific memory hierarchies. Finally, Jacket includes a system to manage memory and schedule computation for seamless integration of visualization and computation. Jacket now fully supports NVIDIA's Tesla and CUDA products.

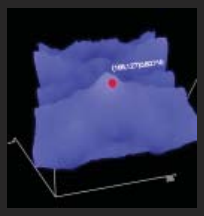
Graphics Toolbox

The Graphics Toolbox extends Jacket to seamlessly integrate computation with visualization making difficult to program, multi-threaded, and real time graphical displays effortless to achieve.

For example, by placing a single visualization command at the end of a loop, data may be viewed as it is processed in-place on the GPU. Jacket automatically makes load-balancing decisions to optimally use GPU resources for compute as well as display. Further, the Graphics Toolbox exposes the entire OpenGL API including all newest functions and extensions and allows for interactive scene creation and rapid prototyping. Best of all, these visualization scripts are totally open-source. Don't like a visualization? Just change it. The Jacket Graphics Toolbox for MATLAB provides truly open, easy to use, blazingly fast visual computing.





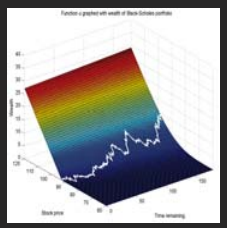


SIMPLE **Software** POWERFUL **VisualComputing**

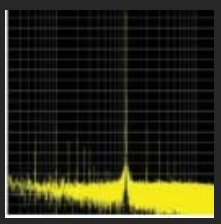
Jacket Examples

Jacket includes extensive documentation and user examples to help developers in getting started with MATLAB GPU computing. In depth documentation and examples are also available online. Visit **www.accelereyes.com/documentation.php.**

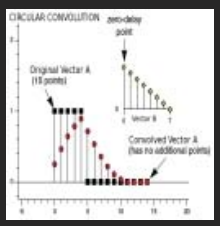
Examples include: Matrix Multiply Benchmarks, FFT Benchmarks, Convolution Benchmarks, Neural Network Example, Filtering Example, Financial Example, and several Graphics Toolbox examples including simulation of ocean surfaces and rain drops.



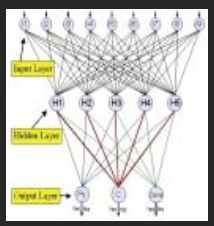
Black-Scholes



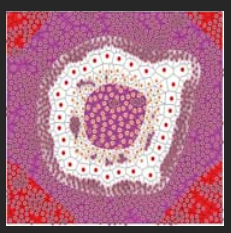
FFT



Convolution



Neural Net



Bioinformatics

About AccelerEyes

AccelerEyes was founded in June 2007 to build simple software for powerful visual computing. In order for high performance computing (HPC) companies to adopt GPU technologies, a robust and healthy software tool chain must be created to connect programmers to GPU hardware. While hardware manufacturers are building lower-level software tools, such as NVIDIA's CUDA, which support their devices, AccelerEyes delivers high-level interfaces which remove the lower-level complexity.

ACCELEREYES

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