



# CULA | tools

GPU-accelerated LAPACK.

CULA™ is a GPU-accelerated linear algebra library that utilizes the NVIDIA CUDA parallel computing architecture to dramatically improve the computation speed of sophisticated mathematics.

## HOW CULA CAN BENEFIT YOU

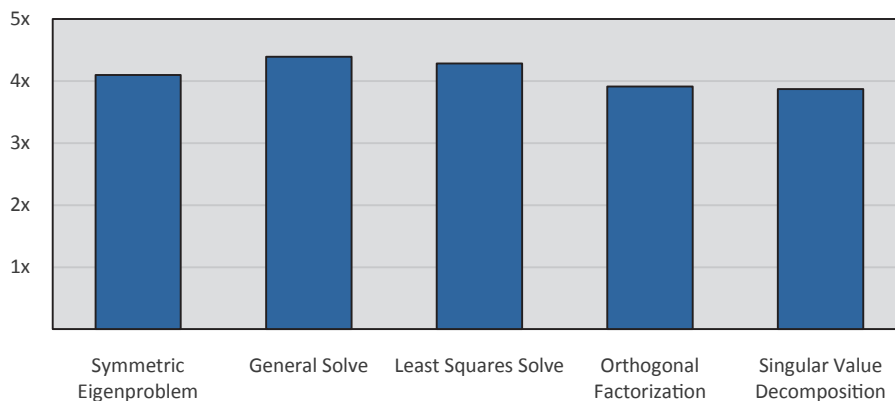
CULA requires no GPU programming experience to integrate into your applications. Simple library calls are available to start accelerating your linear algebra applications immediately. For users that want more control, we offer a lower level interface that allows you to work at the device level.

CULA is available as pre-compiled libraries for Windows, Linux, and Mac OS X operating systems with interfaces to C, C++, FORTRAN, and MATLAB. Additionally, we offer a Bridge Interface to allow seamless integration with existing code.

## HOW WE COMPARE

This graph shows the relative speed up of many CULA functions when compared to Intel's MKL 10.2. Benchmarks were obtained comparing an NVIDIA Tesla C1060 and an Intel Core i7 860. For additional benchmarking data, please visit our web page.

**CULA Speedup vs. Intel MKL 10.2**



## FUNCTION FAMILIES

- » Linear solvers
- » Least squares solvers
- » Orthogonal factorizations
- » Singular value decomposition
- » General eigenvalues
- » Symmetric eigenvalues

## VERSIONS

- » **CULA Basic** is a free for hobbyists and academia
- » **CULA Premium** offers the features needed for scientific computing applications and R&D
- » **CULA Commercial** provides the flexibility of redistribution in commercial software

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