ISU Statistics Department

GPU Computing Lecture Series

Tentative Syllabus

Lectures are on Thursdays at 10 AM in Snedecor 2113.

Lecture 1: Introduction to GPU computing

Lecture 2: Usage and performance of the R package, gputools.

Lecture 3: A codeless introduction to the paradigm of GPU parallelization.

Lecture 4: Introduction to programming on the GPU using CUDA C.

Lecture 5: CUDA C: shared memory and thread cooperation.

Lecture 6: CUDA C: performance measurement, race conditions, atomics, and warps.

Lecture 7: CUBLAS and CULA: linear algebra libraries for CUDA C

Lecture 8: Rejection sampling in CUDA C

Lecture 9: An introduction to programming in Python: preparation for PyCUDA

Lecture 10: PyCUDA: a CUDA-implemented Python library for GPU computing

Lecture 11: ABC-SysBio: A tool for parameter inference and model selection