An Educator's Toolbox for CUDA

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AGENDA

Part 1 (90 mins) 10:30 - 12 noon Teaching CUDA Basics

Notes and code for Part 1 are available at: http://www.cs.pdx.edu/~karavan/cuda/part1

1. Opening Remarks (30 mins)
   Introductions, structure of session, connecting to the servers, what is CUDA?

2. Why Teach CUDA? Where in the Curriculum does it fit? (30 mins)

3. Demo of CUDA programming, debugging, and performance views (30 mins)
   Writing, compiling, and running CUDA code. The CUDA programming model.

Part 2 (90 mins): 1:30 - 3pm CUDA Programming Exercises

Notes and code for Part 2 are available at: http://www.cs.pdx.edu/~karavan/cuda/part2

Hands On #1: Introductory Exercises

Hands On #2. Intermediate Exercises

Resources for Teaching CUDA
A quick survey of available textbooks, equipment, websites, etc. to help you with your class

Part 3 (90 mins): 3:30 - 5pm Panel Discussion, Architectural Features and Performance

Notes and code for Part 3 are available at: http://www.cs.pdx.edu/~karavan/cuda/part3

Hands On #3: Exercises for Exploring Memory Issues

Hands On #4: Exercises for Exploring Performance

Panel Discussion / Q & A: Teaching CUDA: Experiences and Lessons Learned

How to participate in the hands on exercises

To participate in the hands on exercises, you have these options:

(1) use your laptop and the SC wireless to to connect to one of our classroom servers

(2) use your laptop and your own wireless service to connect to one of our classroom servers

(3) work directly on your own laptop. This option requires:

CUDA version 5 pre-installed

available at http://developer.nvidia.com/cuda/

a CUDA-capable graphics card

to check your card see http://developer.nvidia.com/cuda/cuda-gpus

an editor or full development environment