GPA-2014

VMCC, IIT BOMBAY
24th – 26th February 2014

INTRODUCTION

NVIDIA Corporation, USA has recently awarded IIT Bombay a CUDA Center of Excellence (CCOE). The CCOE of IIT Bombay, in association with NVIDIA, is conducting a National Level Workshop on GPU Programming and Applications (GPA-2014) during 24th – 26th February 2014 at IIT Bombay.

GPA-2014 is a three day workshop on heterogeneous parallel computing. GPA-2014 is aimed at enriching the skills of students, faculty and researchers with cutting-edge techniques and hands-on experience in developing applications for many-core processors, with massively parallel computing resources like GPU accelerators.

OBJECTIVES

- Introduce techniques/ tools available based on NVIDIA's CUDA environment.
- Enable participants to quickly get started with writing their own parallel codes on GPGPU.
- Provide hands-on experience in parallel programming.
  These special sessions will provide the rich hands-on experience with various languages and tools covered in the lectures.
  They comprise a brief introduction to the programming assignments, followed by independent work periods.
  To help with the assignments, teaching assistants will be available in person and via the web.
- Present case studies from different application domains.

BY THE END OF THE WORKSHOP, PARTICIPANTS WILL:

- Be exposed to computational thinking skills for accelerating applications in science and engineering.
- Understand the most important architectural performance considerations for developing parallel applications.
- Be able to design algorithms that are appropriate for accelerators.
- Engage computing accelerators on science and engineering breakthroughs.

WORKSHOP CONTENTS

- Why Supercomputing?
- Introduction to Parallel Computing
- Introduction to GPU Computing
- CUDA Architecture and Programming model
- CUDA Best practices
- CUDA Optimizations
- CUDA Profiling and debugging tools
- Case Studies from different Application Domains

(Details are available on the GPA-2014 website)

TARGET AUDIENCE

The target audiences of the course are students who want to develop exciting applications for parallel processors, as well as those who want to develop programming tools and future implementations for these processors:

- Students, Faculty and Researchers from Academic Institutes
- Researchers from Govt. Research Organizations
- Engineers/ Researchers from Industry

PREREQUISITES

- Fair knowledge of C/ C++ programming

WORKSHOP DIRECTORS

- Prof. P. S. V. Nataraj, IIT Bombay
- Prof. Shivasubramanian Gopalakrishnan, IIT Bombay

WORKSHOP SPEAKERS

- Mr. Vinay Deshpande, NVIDIA
- Mr. Priyadarshan Dhabe, IIT Bombay
- Prof. Shivasubramanian Gopalakrishnan, IIT Bombay
- Mr. Pradeep Gupta, NVIDIA
- Prof. Yashwant Gupta, NCRA-TIFR, Pune
- Prof. P. B. Sunil Kumar, IIT Madras
- Prof. P. S. V. Nataraj, IIT Bombay
- Dr. V. C. V. Rao, CDAC, Pune

TEACHING ASSISTANTS

- Mr. Umesh Gupta, IIT Bombay
- Mr. Mandar Gurav, IIT Bombay
- Mr. Anirudha Kurhade, IIT Bombay
- Ms. Lorin Ahmed, IIT Bombay

WORKSHOP COORDINATOR

- Ms. Rashmi Pradeep, IIT Bombay

IMPORTANT DATES

Application for Registration deadline:	5th February 2014
Notification of Acceptance of Registration:	10th February 2014
Workshop Dates:	24th to 26th February 2014

WORKSHOP REGISTRATION

Participants are requested to do online registration at:

http://www.sc.iitb.ac.in/~gpa2014/registration.php

Once registration is confirmed, further details will be sent to the participants. All participants must bring their own laptops with wifi connectivity to access the supercomputing cluster locally.

WORKSHOP FEE STRUCTURE

Category	Participants	Fees
Students	Undergraduate/ Post Graduate Students and Research Scholars	INR 2000
Faculty	Teachers, Engineers/ Researchers from Academic institutes and Government Organizations	INR 3800
Professionals	Engineers/ Researchers from Industry, and others	INR 5500

ACCOMMODATION

Due to unavailability of accommodation on IITB campus, we request participants to arrange accommodation on their own. Following options might be available just outside the IIT Bombay campus:
MTNL Guest House and Service Apartments.

CONTACT INFORMATION

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