

CA835-Multicore Programming and GPGPU Programming

- Introduction to Parallel Programming, Parallel Architectures, Types of Parallelism, Flynn's Taxonomy, Introduction to Concurrent Programming
- Parallel Programming Concepts, Design Patterns for Parallel Programming, Debugging Parallel Programs, Performance Monitoring and Optimization of Parallel Programs.
- Parallelizing Compilers, SIMD Programming, Synthesizing Parallel Programs, Understanding Parallelism with GPUs
- CUDA History, Applications of CUDA, GPU Computing, CUDA Development Environment, CUDA Architecture, Libraries and SDKs
- CUDA Programming Fundamentals, Multi-CPU and Multi-GPU Programming, GPGPU Programming, Open CL and Other Libraries

Recommended Reading:

- Programming Massively Parallel Processors: A Hands-on Approach, David B. Kirk and Wen-mei W. Hwu
- Parallel Programming For Multicore and Cluster Systems, Thomas Rauber and GudulaRunger
- CUDA Programming - A Developer's Guide to Parallel Computing with GPUs
- CUDA by Example, Jason Sanders, Edward Kandrot

Web and other References:

- MIT Open Courseware: Multicore Programming Primer
- Nvidia CUDA Training and Open Source CUDA References

Jalli 26/8/13
(S Valli)

Shriya
26/8/13
(MICHAEL AROCK)

P. Sankar
26/8/13
(R. SATYANARAYAN)

S. Sivan
(Dr. Srivankumar)

Mo. 8-10-13
A. 10/9
for Senate
approval