CSE5351/4351: Parallel Processing

Objectives:

In this course you will learn the fundamentals of high-performance parallel computing including, various kinds of system architectures, design methodologies, various programming models, performance evaluation, parallelizing techniques, parallel algorithms and resource management of parallel and distributed systems. In addition, advanced topics such as multi-core processors, grid computing and energy-aware computing will be reviewed. The course starts as an introductory course but includes advanced feature as well as a great deal of research element. At the end of the course, you should be able to understand the difference between various parallel computing approaches, and utilize parallel and distributed computing for solving real-world problems.

Instructor:

Prof. Ishfaq AHMAD

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Appointment: Through E-mail

Course web page:

http://ranger.uta.edu/~iahmad/cse5351.html

Office hours:

To be announced

TA:

To be announced

Notes:

Lecture Transparencies, Notes, Manuals and Programming Guides, Book chapters will be provided

Grading Scheme:

2-3 homeworks (20%)

Mid-term paper (35%)

Final Project (45%)

Prerequisite:

(1) Basic Computer Architecture

(2) Knowledge of C or FORTRAN

(3) Some Knowledge of parallel computing

Hardware & Software Platforms:

Network of workstations using MPI