CS5613 Computer Networks and Distributed Processing
SPRING 2010

Topics: Parallel and Distributed Processing

Instructor: S. Lakshmivarahan

Class Time and Place: T-TH 9.00 to 10.15 am in CEC 441

Office Hours: T-TH 10.30 am to 11.30 am
T-TH 3.00 pm to 4.00 pm

Topics:

1. An overview of Parallelism. The need for parallel machines, their evolution, and architectural features of competing architectures. Shared vs. distributed memory.
2. The role of interconnection networks in parallel architectures. Study of special classes of interconnection networks: ring, toroid, hypercube, tree and their properties.
3. A detailed study of various communication schemes: point to point, single source broadcast, all source broadcast and gossiping.
5. Mapping algorithms on to parallel architectures
6. An Over view of MPI
7. Case studies: Matrix related problems Solution of Linear systems,

Text: This class will be based on a set of papers from the current literature. A set of papers will be made available in a file in the Engineering library.


Final Exam: Friday, May 14th, 2010 from 8.00 am to 10.00 am in Room CEC 441

Grading: Assignments – 6-8, one mid-term, and a final. Assignment –30%, midterm 30%, final 40%. Grading scale: A is 90 and above, B is from 80 to 89, C is from 70 to 79, D is from 60 to 69 and below 59 is F.

For more information contact: varahan@ou.edu