

## CEG 820 Project

- Choose a topic, and do either A or B.
- A. Design, implementation, and/or performance analysis (deterministic modeling, analytical modeling, or simulation).
- B. Technical paper review. (B is an incomplete form of A, and will get 70% of the score at maximum).
  
- Submit a description of your topic and a list of reference papers. (due 2/18)
- Present in the class and submit the report (report due 3/18)
- Size of the report is between 20 and 30 double-spaced pages.

### Possible Topics

- Memory/cache management in multiprocessor system.
- MIMD machines
- Fault tolerant computing
- Parallel algorithms for numeric or nonnumeric computation.
- Performance evaluation of parallel computers
- Interconnection networks
- Dataflow machines
- Systolic array
- Optical computing
- Application-specific architectures, such as database machines, Image processing machine, etc.
- Artificial neural networks
- RAID (Redundant Array of Inexpensive Disks)
- Multicore Processors
- Multimedia Systems
- Cluster computing
- Grid computing
- Other relevant topics

### Reference Sources

- IEEE Trans. on Computer
- Computer (IEEE Computer Magazine)
- Communications of ACM
- IEEE Tutorials, such as Tutorial on computer architecture, on supercomputing, etc.
- Proc. of Int'l Conf. on Parallel Processing
- Proc. of Int'l Symposium on Computer Architecture: available in the volumes of Computer Architecture News
- Journal of Parallel and Distributed Computing
- ACM Trans. on Computer Systems
- IEEE Trans. on Parallel and Distributed Systems
- ACM Computing Surveys
- IEEE Trans. on Knowledge and Data Engineering
- IEEE Trans. on Neural Networks
- IEEE Micro
- ACM/Springer Multimedia Systems
- IEEE Multimedia
- and Others

