FALL 2015
Computer Science
Extended Campus / Distance Education

CS 520-951
Online

Instructor – Michelle Zhu

Advanced Topics in Parallel & Distributed Computing

Course Description: An advanced treatment of parallel and distributed computing; review of hardware and software considerations for parallel computation; development and analysis of parallel algorithms (with particular attention to the communication and synchronization costs associated with parallel algorithms); effect of granularity on performance; a comparison of the parallel and distributed programming paradigms including a detailed study of the central features of each approach; software systems for distributed computing including exposure to one or more distributed programming environments; the direction of parallel computing as suggested by recent, high level parallel languages; parallelizing serial programs; parallelizing compilers; future directions of parallel and distributed computing systems. The course will include a student project.