CS 385, Spring 2016

Supercomputing Practicum

Students will take a nontrivial serial scientific code through the process of shared memory parallelization and then distributed memory parallelization on a supercomputing cluster at Lawrence Livermore National Laboratory. The course will emphasize correctness, parallel debugging strategies and tools for assessing parallel performance. The class is intended to be highly collaborative and students may specialize in algorithmic implementation, data visualization and/or performance analysis tools. Guest lecturers will cover specialized topics such writing a human heart simulation for the world’s fastest supercomputer, “bare metal” programming, supercomputer operating systems, large scale data visualization, problems in performance scalability and advanced performance analysis.