



Faculty Capabilities and Interests

Name: Seyed Roosta, Ph.D.
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Discipline: Computer Science
Subdiscipline(s): Operations Research
Areas of Research: High Performance Computing, Computer Architecture, Data Communication and Networking, Graph Theory, Algorithms
Interests: Parallel Programming, Operating Systems, Algorithms
Skills: High performance computing is making a tremendous impact in many areas of computer applications. A growing number of applications in science, engineering, business and medicine are requiring computing speeds that hardly can be achieved by the current conventional computers. These applications involve processing huge amount of data or performing a large number of iterations. High Performance computing is one of the approaches known today which would help to make these computations feasible. The most important ingredient for high performance computing is parallel algorithms or parallel solution methods, and there has been considerable interest in the development of parallel algorithms. My research involves high performance computing utilizing parallel algorithms.
Research Summary: (current, performed in the past 5 year; 300 words or less) Dynamic Communication Networking is in the dominating position when we consider the distributed real-time systems. It provides architecture for data communication, control and security. Motivation for this research arose from the design and management of reliable, secure and efficient dynamic networks in distributed real-time systems under traffic growth model. The primary element of the system is the Decision Aiding System which performs situation assessment, planning and information management. Data Fusion System furnishes essential input to system which performs high-level evaluations.
Keywords (5 maximum) Architecture, Programming, Data Communication, Networking