HiPC 2018 EduHiPC Workshop
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Invited Talks – National Initiatives

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Title: Developing IEEE-TCPP Parallel/Distributed Curriculum and NSF Office of Advanced Cyberinfrastructure CyberTraining Program

Abstract

The NSF-supported Center for Parallel and Distributed Computing Curriculum Development and Educational Resources (CDER), in collaboration with the IEEE TC on Parallel Processing (TCPP), developed undergraduate curriculum guidelines for parallel and distributed computing (PDC), from 2010 to 2012. Our goal has been to migrate Computer Science (CS) and Computer Engineering (CE) courses in the first two years from the sequential model toward the now pervasive paradigm of parallel computing. This curriculum initiative that has now over 100 early adopter institutions nationally and internationally, including in India and vicinity. It has heavily influenced the ACM/IEEE Taskforce on Computer Science Curricula 2013 for their PDC thrust. I will describe this initiative and its current update efforts along the key aspects of big data, energy, and distributed computing.

The US National Science Foundation Office of Advanced Cyberinfrastructure (OAC) has introduced a CyberTraining program (NSF 19-524) for education and training aimed to fully prepare scientific workforce for nation's research enterprise to innovate and utilize high performance computing resources, tools and methods. The community response in its two rounds of competition have exceeded expectations. I will introduce this, as well as research and education programs for early-career faculty such CAREER and CRII. I will also touch on NSF's ten big ideas, including Harnessing the Data Revolution.

Bio

Sushil K. Prasad is a Program Director at US National Science Foundation in its Office of Advanced Cyberinfrastructure (OAC) in the Computer and Information Science and Engineering (CISE) directorate leading its emerging research and education programs such as CAREER, CRII, Expeditions, CyberTraining, and the most-recently introduced OAC-Core research. He is an ACM Distinguished Scientist and a Professor of Computer Science at Georgia State University. He is the director of Distributed and Mobile Systems Lab carrying out research in Parallel, Distributed, and Data Intensive Computing and Systems. He has been twice-elected chair of IEEE-CS Technical Committee on Parallel Processing (TCPP), and leads the NSF-supported TCPP Curriculum Initiative on Parallel and Distributed Computing for undergraduate education.