CENTER FOR COMPUTATION & TECHNOLOGY

Interdisciplinary | Innovative | Inventive

LOUISIANA STATE UNIVERSITY

Events

Current Events
Lectures▼
Events Archive▼

Other

Automated Empirical Optimization of High Performance Floating Point Kernels

R. Clint Whaley, University of Texas at San Antonio

Core Search Committee Presentation

Johnston Hall 338
February 22, 2013 - 09:30 am

Abstract:

In AEOS (Automated Empirical Optimization of Software), an automated suite of searches are combined with context-sensitive timers and various methods of performing code transformations to auto-adapt high performance kernels to hardware evolving at the frantic pace dictated by Moore's Law. The author's widely used ATLAS (Automatically Tuned Linear Algebra Software) was one of the pioneering packages that made AEOS the state-of-the-art way to produce and maintain HPC kernels. This talk outlines our approach to this critical area of investigation, the types of research that are required to advance the field, and future plans

Speaker's Bio:

R. Clint Whaley is an associate professor in the Computer Science Department of the University of Texas at San Antonio. He received his PhD in Computer Science in December 2004 from Florida State University in the area of optimizing compilers, his MS in Computer Science in May 1994, from the University of Tennessee at Knoxville in the area parallel programming, and his BS in Mathematics in May of 1991. He was a full-time researcher at the University of Tennessee at Knoxville as a Research Associate from May 1994 to June 1999, and as a Senior Research Associate from June 1999 to December 2001. He was a Post-doctoral researcher and adjunct at Florida State University from January 2005 through June 2005, and then held the title of assistant professor at the University of Texas at San Antonio from 2005 to 2012 before promotion with tenure. His research interests include empirical optimization, optimizing compilers, high performance computing, computer architecture and parallel computing.

Center for Computation & Technology
2003 Digital Media Center • Telephone: +1 225/578-5890 • Fax: +1 225/578-8957