

ICS'10 Workshop (W3)

Information Retrieval by Matrix Methods on Supercomputer Infrastructures (IRMM'10)

Duration, Organizers, Abstract, Topics and Dates

Duration: Half Day

Workshop Organizers

Marian Vajteršic (University of Salzburg, AUSTRIA)

Michael W. Berry (University of Tennessee, U.S.A.)

Efstratios Gallopoulos (University of Patras, GREECE)

Abstract

Information retrieval (**IR**) over large data sets, like web-pages, libraries, image collections is an important application domain for high-performance computing. The algorithmic foundations of IR depend on linear and multilinear algebra theory and algorithms. A major challenge is that the scale of IR problems can be enormous and the data fluid. To assure the delivery of accurate responses to queries and other IR operations within acceptable time constraints it is critical that the design of algorithms and the engineering of their implementation on HPC platforms combine effective dimensionality reduction, IR specific domain knowledge, and aggressive exploitation of the software, architecture and hardware infrastructure. The goal of this workshop is to bring together scientists engaged in the development of algorithms and tools for high-performance IR on state-of-the-art systems (multicores, GPUs and Grid environments) in order to present their latest results in this exciting area of research.

Topics

Major workshop topics include:

- Innovative Matrix and Tensor-Based Models for IR
- Novel Fast Linear Algebra Solvers and Environments for IR
- Solving Update–Downdate Problem of IR
- Specialized Approaches for Solving Sparse- and Dense- Vector IR Applications
- High-Performance Implementations of IR Matrix–Algorithms
- Solving IR-Problems on a Grids
- Formal Comparisons of Matrix-Based to Matrix-Free Methods

Important Dates

April 24, 2010: Paper submission deadline

May 1, 2010: Acceptance notification

May 11, 2010: Camera-ready deadline

June 1, 2010: Workshop date