Innovative Research and Applications in Next-Generation High Performance Computing

Part of the Advances in Systems Analysis, Software Engineering, and High Performance Computing (ASASEHPC) Book Series

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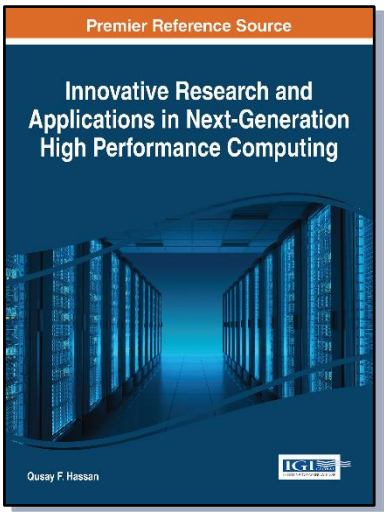

Description:

High-performance computing (HPC) describes the use of connected computing units to perform complex tasks. It relies on parallelization techniques and algorithms to synchronize these disparate units in order to perform faster than a single processor could, alone. Used in industries from medicine and research to military and higher education, this method of computing allows for users to complete complex data-intensive tasks. This field has undergone many changes over the past decade, and will continue to grow in popularity in the coming years.

Innovative Research Applications in Next-Generation High Performance Computing aims to address the future challenges, advances, and applications of HPC and related technologies. As the need for such processors increases, so does the importance of developing new ways to optimize the performance of these supercomputers.

Readers:

This timely publication provides comprehensive information for researchers, students in ICT, program developers, military and government organizations, and business professionals.

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Qusay F. Hassan received his Ph.D. from Mansoura University in computer science and information systems, in 2015. His research interests are varied which include SOA, high-performance computing, grid computing, cloud computing, and IoT. Qusay has authored and co-authored a number of journal and conference papers as well as book chapters. Moreover, he is currently editing/authoring a number of new books including *Internet of Things: Concepts, Technologies, Applications, and Implementations* and *Networks of the Future: Architectures, Technologies, and Implementation*, to be released in 2017. Dr. Hassan is a senior IEEE member, and a member of the editorial board of a number of associations including IEEE and AICIT. Moreover, he has many years of practical experience in ICT and software engineering. Dr. Hassan currently works as a systems analyst for the United States Agency for International Development (USAID) in Cairo, Egypt, where he deals with large-scale and complex systems.