Computer Science Seminar
Cloud Computing: A Platform for Data Intensive Computing to Cyber-Physical Systems

Shikharesh Majumdar
Department of Systems and Computer Engineering
Carleton University

The use of cloud computing that provides resources on demand and empowers its users with the ability to increase or shrink their resource requirements dynamically is growing rapidly. The pay as you go model employed by the cloud and its ability to unify geographically dispersed virtualized resources are spreading its deployment to multiple domains that include data intensive computing such as big data analytics for enterprise, scientific and engineering applications as well as the management of cyber-physical systems such as sensor-equipped bridges and buildings and smart industrial/aerospace machinery. An effective management of resources is crucial in each of these scenarios to effectively harness the power of the underlying resource pool and achieve high system performance. Focusing on resource management this talk will address the various challenges and potential solutions in the context of a cloud deployed in these various application scenarios. Techniques and systems for unification of geographically dispersed resources and the management of resources in the context of latency sensitive data analytics applications will be discussed.

Bio: Shikharesh Majumdar is a Full Professor and the Director of the Real Time and Distributed Systems Research Centre at the Department of Systems and Computer Engineering at Carleton University in Ottawa, Canada. He is a member of the board for Carleton University Institute for Data Science and represents the university in the board managing the Huawei-TELUS Centre of Innovation for Enterprise Cloud Services that focuses on collaborative research among Huawei, TELUS and Carleton. Dr. Majumdar is a member of the faculty team actively involved with Carleton University's Canada-India Centre for Excellence. He holds a Ph.D. degree in Computational Science from University of Saskatchewan, Saskatoon, Canada. His research interests are in the areas of cloud and grid computing, operating systems, middleware and performance evaluation. Dr. Majumdar actively collaborates with the industrial sector and has performed his sabbatical research at Nortel and Cistech. He is the area editor for the Simulation Modeling Practice and Theory journal published by Elsevier. Dr. Majumdar is a member of ACM and a senior member of IEEE and was a Distinguished Visitor for the IEEE Computer Society from 1998 to 2001.

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