Faculty of Computer Science UNB

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Massive Data Algorithmics
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Modern data-gathering instruments and communication systems generate massive amounts of data. For example, modern large large format aerial cameras collect data at a rate of 1.1 Terrabytes per hour. Core internet routers process packets at speeds up to 92 Terrabits per second. Such massive data gathering and processing equipment has given rise to new classes of algorithms for dealing with such data.

This talk gives an overview of the underlying complexity models for these types of algorithms. I/O efficient, streaming and cache-oblivious algorithms are discussed with a view to understanding how their models differ from the classic computational models. Some optimal algorithms for solving massive data handling problems under these models are discussed, along with some open problems. The talk concludes with a brief look at the Center for Massive Data Algorithmics (MADALGO) in Aarhus, Denmark. The speaker was a visiting professor at MADALGO during his 2007-2008 sabbatical leave.

STUDENTS ARE ENCOURAGED TO ATTEND