

Introduction to Network Calculus: Basic Concepts and Applications

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6th Floor, Yellow Zone
Yeung Kin Man Academic Building
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ABSTRACT

Network calculus is a “new” branch of queueing theory, exploring the bounding behavior for queues. It was initially triggered by the motivation of providing integrated / guaranteed services in the Internet. In recent years, the theory has been applied and extended to other types of networks / systems / areas such as wireless networks, parallel computing, real-time systems and operations research. In this talk, the motivation of network calculus, given the classic queueing theory, will be discussed, followed by an introduction to its fundamental concepts. Then, example applications will be introduced. The talk will be concluded with a discussion on its potential application in emerging systems, e.g. ultra-reliable low-latency communication (URLLC) and time-sensitive networking (TSN).

BIOGRAPHY

Prof Yuming Jiang received his BSc degree from Peking University, China and PhD degree from National University of Singapore (NUS), Singapore. He was a research scientist with the Institute for Infocomm Research (I2R), Singapore, in 2001 - 2003. Since 2004, he has been with the Norwegian University of Science and Technology (NTNU), Norway, where he is a full professor. He visited Northwestern University in Aug 2009 - Jul 2010, and Columbia University in Aug 2015 - Jul 2016. In the area of network calculus, he co-authored the book “Stochastic Network Calculus” and his focus has been on the development of the theory and on applying the theory to various types of networks / systems. He was chair of the first International Workshop on Network Calculus and Applications, held in Vienna, 2018 (NetCal 2018).

All are welcome!



In case of questions, please contact Prof Xiaohua Jia at Tel: 3442 9670, E-mail: csjia@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/>.

