

# Curriculum Vitae

Tsuen Wan “Johnny” Ngan

## Personal Information

Legal name: Tsuen Wan Ngan  
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Visa status: F-1 (Hong Kong citizen)  
Languages: Fluent English and Chinese (Cantonese and Mandarin)

## Education

**Aug 2001–Summer 2006 (expected)** Ph.D. in Computer Science, Rice University, Houston, Texas, USA  
Thesis: Incentive-Oriented Peer-to-Peer System Design  
Advisor: Dr. Dan S. Wallach

**Aug 2001–May 2004 (Ph.D. track)** M.S. in Computer Science, Rice University, Houston, Texas, USA  
Thesis: Incentives and Fair Sharing in Peer-to-Peer Systems  
Advisor: Dr. Dan S. Wallach

**Sep 1999–Jun 2001** M.Phil. in Computer Science, University of Hong Kong, Hong Kong  
Thesis: On the Effectiveness of Additional Resources for On-line Firm Deadline Scheduling  
Advisor: Dr. Tak-Wah Lam

**Sep 1996–Jun 1999** B.Eng. in Computer Engineering (First Class Honors), University of Hong Kong, Hong Kong

## Research Interest

### Systems

- Distributed (peer-to-peer) systems
- Economics aspects of computer science
- Computer security

## Theory

- Online algorithms

## Professional Experience

- **Amazon.com Inc.**, Software Development Engineer Intern, summer 2005.  
Research and development on optimal inventory policy and optimal in-stock level.
- **Rice University**, Research Assistant, 2002–current.
- **Rice University**, Teaching Assistant, several occasions.
- **University of Hong Kong**, Research Assistant, several occasions.
- **University of Hong Kong**, Teaching Assistant, several occasions.
- **Hong Kong Government**, Programmer, summer 1998.  
Design and development of an inventory system on all computer hardware and software for a department with 1,000+ employees.

## Professional Service

### External reviewer

### Journals

- IEEE Transactions on Parallel and Distributed Systems (TPDS)
- IEEE Journal on Selected Areas in Communications (J-SAC)
- Computer Networks Journal (ComNet)

### Conferences

- Usenix Security Symposium
- IEEE Symposium on Security and Privacy
- Workshop on Hot Topics in Operating Systems (HotOS)
- IEEE Conference on Local Computer Networks (LCN)
- International Conference on Parallel Processing (ICPP)

## Publications

### Journals

1. Tak-Wah Lam, Tsuen-Wan Johnny Ngan, and Kar-Keung To. A tighter extra-resource analysis of online deadline scheduling. *Journal of Combinatorial Optimization*, 9(2):193–206, March 2005. Full version of [10].
2. Tak-Wah Lam, Tsuen-Wan Johnny Ngan, and Kar-Keung To. Performance guarantee for EDF under overload. *Journal of Algorithms*, 52(2):193–206, August 2004.
3. Chiu-Yuen Koo, Tak-Wah Lam, Tsuen-Wan “Johnny” Ngan, and Kar-Keung To. Extra processors versus future information in optimal deadline scheduling. *Theory of Computing Systems*, 37(3):323–334, May 2004. Full version of [13].
4. Chiu-Yuen Koo, Tak-Wah Lam, Tsuen-Wan Ngan, and Kar-Keung To. Competitive deadline scheduling via additional or faster processors. *Journal of Scheduling*, 6(2):213–223, March 2003.
5. Chiu-Yuen Koo, Tak-Wah Lam, Tsuen-Wan Ngan, Kunihiko Sadakane, and Kar-Keung To. On-line scheduling with tight deadlines. *Theoretical Computer Science*, 295(1–3):251–261, February 2003. Full version of [14].

### Major Conferences and Workshops

6. Atul Singh, Tsuen-Wan “Johnny” Ngan, Peter Druschel, and Dan S. Wallach. Eclipse attacks on overlay Networks: Threats and defenses. In *Proceedings of the 25th IEEE INFOCOM*, Barcelona, Spain, April 2006.
7. Animesh Nandi, Tsuen-Wan “Johnny” Ngan, Atul Singh, Peter Druschel, and Dan S. Wallach. Scrivener: Providing incentives in cooperative content distribution systems. In *Proceedings of the ACM/IFIP/USENIX 6th International Middleware Conference (Middleware 2005)*, Grenoble, France, November 2005.
8. Tsuen-Wan “Johnny” Ngan, Animesh Nandi, Atul Singh, Dan S. Wallach, and Peter Druschel. On designing incentives-compatible peer-to-peer systems. In *2nd Bertinoro Workshop on Future Directions in Distributed Computing (FuDiCo II: S.O.S.)*, Bertinoro, Italy, June 2004.
9. Tsuen-Wan “Johnny” Ngan, Dan S. Wallach, and Peter Druschel. Incentives-compatible peer-to-peer multicast. In *2nd Workshop on the Economics of Peer-to-Peer Systems*, Cambridge, Massachusetts, June 2004.
10. Tak-Wah Lam, Tsuen-Wan Johnny Ngan, Kar-Keung To, and Prudence Wai-Ha Wong. Aggressive online deadline scheduling. In *Proceedings of Computing: The Australasian Theory Symposium, ENTCS 91*, pages 149–159, Dunedin, New Zealand, February 2004.
11. Andrew C. Fuqua, Tsuen-Wan “Johnny” Ngan, and Dan S. Wallach. Economic behavior of peer-to-peer storage networks. In *Workshop on Economics of Peer-to-Peer Systems*, Berkeley, California, June 2003.
12. Tsuen-Wan “Johnny” Ngan, Dan S. Wallach, and Peter Druschel. Enforcing fair sharing of peer-to-peer resources. In *2nd International Workshop on Peer-to-Peer Systems (IPTPS), LNCS 2735*, pages 149–159, Berkeley, California, February 2003.
13. Chiu-Yuen Koo, Tak-Wah Lam, Tsuen-Wan Ngan, and Kar-Keung To. Extra processors versus future information in optimal deadline scheduling. In *Proceedings of the 14th ACM Symposium on Parallel Algorithms and Architectures (SPAA)*, pages 133–142, Winnipeg, Manitoba, Canada, August 2002.

14. Chiu-Yuen Koo, Tak-Wah Lam, Tsuen-Wan Ngan, and Kar-Keung To. On-line scheduling with tight deadlines. In *Proceedings of the 26th International Symposium on Mathematical Foundations of Computer Science (MFCS)*, pages 464–473, Marianske Lazne, Czech Republic, August 2001.
15. Tak-Wah Lam, Tsuen-Wan Ngan, and Kar-Keung To. On the speed requirement for optimal deadline scheduling in overloaded systems. In *Proceedings of the 15th International Parallel and Distributed Processing Symposium (IPDPS), Workshop on Scheduling and Telecommunications*, pages 2173–2177, San Francisco, California, April 2001.

## Theses

16. Tsuen-Wan “Johnny” Ngan. Incentives and fair sharing in peer-to-peer systems. Master’s thesis, Rice University, 2004.
17. Tsuen-Wan Ngan. On the effectiveness of additional resources for on-line firm deadline scheduling. Master’s thesis, University of Hong Kong, 2002.

## Others

18. Tsuen-Wan “Johnny” Ngan, Atul Singh, Peter Druschel, and Dan S. Wallach. Towards a dependable, heterogeneity-aware P2P system. In *South Central Information Security Symposium (SCISS’05)*, Austin, Texas, April 2005.
19. Tsuen-Wan “Johnny” Ngan and Dan S. Wallach. On designing resource sharing peer-to-peer systems. In *South Central Information Security Symposium (SCISS’04)*, Houston, Texas, April 2004.
20. Tsuen-Wan “Johnny” Ngan, Animesh Nandi, and Atul Singh. Fair bandwidth and storage sharing in peer-to-peer networks. In *First IRIS Student Workshop*, Cambridge, Massachusetts, August 2003.
21. Tsuen-Wan “Johnny” Ngan, Dan S. Wallach, and Peter Druschel. Towards fair sharing of peer-to-peer resources. In *South Central Information Security Symposium (SCISS’03)*, Denton, Texas, April 2003.

## Selected Talks

- “Incentives-Oriented Peer-to-Peer System Design.” *Invited talk*, University of Hong Kong, Hong Kong, December 2005.
- “Scrivener: Providing Incentives in Cooperative Content Distribution Systems.” *ACM/IFIP/USENIX 6th International Middleware Conference*, Grenoble, France, November 2005.
- “Scrivener: Providing Incentives in Cooperative Content Distribution Systems.” *Invited talk*, Max Planck Institute for Software Systems, Saarbrücken, Germany, November 2005.
- “Incentives-Compatible Peer-to-Peer Multicast.” *2nd Workshop on the Economics of Peer-to-Peer Systems*, Cambridge, Massachusetts, June 2004.
- “Enforcing Fair Sharing of Peer-to-Peer Resources.” *2nd International Workshop on Peer-to-Peer Systems (IPTPS)*, Berkeley, California, February 2003.
- “On the Speed Requirement for Optimal Deadline Scheduling in Overload Systems.” *15th International Parallel and Distributed Processing Symposium (IPDPS)*, San Francisco, California, April 2001.

## Teaching Experience

### Teaching Assistant

- Introduction to Computer Networks (Comp/Elec 429), Spring 2004, Rice University
- Introduction to Artificial Intelligence (Comp/Elec 440), Fall 2003, Rice University
- Automata, Formal Language, and Computability (Comp 481), Spring 2003, Rice University
- Operating Systems and Concurrent Programming (Comp 421), Spring 2002, Rice University
- Intermediate Programming (Comp 212), Fall 2001, Rice University
- Discrete Mathematics (CSIS1121), Spring 2001, University of Hong Kong. Co-winner of the departmental **Best Tutor Award**.
- Discrete Mathematics (CSIS1121), Spring 2000, University of Hong Kong

### Awards

- First runner-up, 2002 CS Annual Meeting Student Poster Competition, Department of Computer Science, Rice University
- Rice University Graduate Fellowship (2001–02)
- Co-winner, Best Tutor Award, Department of Computer Science, University of Hong Kong (2000–01)
- The Hong Kong and China Gas Company Limited Postgraduate Scholarships (2000–01)
- Postgraduate Studentship, University of Hong Kong (1999–2001)
- Dean's Honors List, University of Hong Kong (1996–97, 1998–99)
- Several academic scholarships in high school

### References

- Dr. Dan S. Wallach (Ph.D. advisor)  
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- Dr. Tak-Wah Lam (M.Phil. advisor)  
Associate Professor, Department of Computer Science, University of Hong Kong, Hong Kong.  
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- Dr. Peter Druschel (co-author, thesis and qualifying exam committee member)  
Scientific Director, Max Planck Institute for Software Systems, Saarbrücken, Germany.  
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- Dr. T. S. Eugene Ng (thesis and qualifying exam committee member)  
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