

# Minkyong Kim

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## EDUCATION

1998-2004	University of Michigan Ph.D. in Computer Science and Engineering Advisor: Brian Noble	Ann Arbor, MI
1996-1998	Seoul National University M.S. in Computer Engineering Advisor: Chu-Shik Jhon	Seoul, South Korea
1992-1996	Seoul National University B.S. in Computer Engineering	Seoul, South Korea

## PROFESSIONAL EMPLOYMENT

2006–present	IBM T.J. Watson Research Center Advisory Software Engineer Manager: Hui Lei	Hawthorne, NY
2004–2006	Dartmouth College Postdoctoral Research Fellow Supervisor: David Kotz	Hanover, NH
1999–2004	University of Michigan Research Assitant Advisor: Brian Noble	Ann Arbor, MI
Summer 1994	Samsung Advanced Institute of Technology Research Intern <i>Developed a graphic accelerator.</i>	Seoul, South Korea

## RESEARCH INTERESTS

SYSTEMS	Distributed systems, operating systems, and file systems
NETWORKING	Measurements of wireless networks and modeling of mobile users
PERVASIVE	Applications for pervasive computing and technologies for location sensing

## PUBLICATIONS AND TALKS

### Refereed Publications

Alix L.H. Chow, Hao Yang, Cathy H. Xia, Minkyong Kim, Zhen Liu, Hui Lei. EMS: Encoded Multipath Streaming for Real-time Live Streaming Applications. *17th IEEE International Conference on Network Protocols (ICNP)*, October 2009, Princeton, NJ.

Yu Gu, Zhe Zhang, Fan Ye, Hao Yang, Minkyong Kim, Hui Lei, Zhen Liu. An Empirical Study of High Availability in Stream Processing Systems. *ACM/IFIP/USENIX 10th International Middleware Conference*, Urbana Champaign, Illinois, USA, November 30 - December 4, 2009.

Kyriakos Karenos, Minkyong Kim, Hui Lei, Hao Yang, Fan Ye. Poster: Providing Quality of Service in Wide- Area Publish/Subscribe Systems. *ACM/IFIP/USENIX 10th International Middleware Conference*, Urbana Champaign, Illinois, USA, November 30 - December 4, 2009.

Hao Yang, Minkyong Kim, Kyriakos Karenos, Fan Ye, Hui Lei. Message-Oriented Middleware with QoS Awareness. *International Conference on Service Oriented Computing*, Stockholm, Sweden, November 2009.

Parijat Dube, Nagui Halim, Kyriakos Karenos, Minkyong Kim, Zhen Liu, Srinivasan Parthasarathy, Dimitrios Pendarakis, and Hao Yang. HARMONY: Holistic Messaging Middleware for Event-Driven Systems. *The IBM Systems Journal*, 2008.

Minkyong Kim, Zhen Liu, Srinivasan Parthasarathy, Dimitrios Pendarakis, Hao Yang. Association control in mobile wireless networks. In *Proceedings of the 27th IEEE International Conference on Computer Communications (INFOCOM)*, Phoenix, Arizona, April 2008.

(Acceptance Rate: 20%)

Minkyong Kim and David Kotz. Periodic properties of user mobility and access-point popularity. *Journal of Personal and Ubiquitous Computing (PUC)*, Volume 11, Number 6, August 2007. Springer London.

Jungkeun Yoon, Brian D. Noble, Mingyan Liu and Minkyong Kim. Building realistic mobility model from coarse-grained wireless trace. In *Proceedings of the Fourth International Conference on Mobile Systems, Applications, and Services (MobiSys)*, Uppsala, Sweden, June 2006.

(Acceptance rate: 16% of over 120 submissions)

Minkyong Kim, Jeffrey Fielding, and David Kotz. Risks of using AP locations discovered through war driving. In *Proceedings of the 4th International Conference on Pervasive Computing (Pervasive)*, Dublin, Ireland, May 2006.  
(Acceptance rate: 13% of 178 submissions)

Minkyong Kim, David Kotz and Songkuk Kim. Extracting a mobility model from real user traces. In *Proceedings of the 25th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM)*, Barcelona, Spain, April 2006.  
(Acceptance rate: 18% of over 1,400 submissions)

Minkyong Kim and David Kotz. Modeling users' mobility among WiFi access points. In *Proceedings of the International Workshop on Wireless Traffic Measurements and Modeling (WiTMeMo)*, pages 19-24, Seattle, WA, June 2005. USENIX Association.  
(Acceptance rate: 46% of 13 submissions)

Minkyong Kim and David Kotz. Classifying the Mobility of Users and the Popularity of Access Points. In *Proceedings of the International Workshop on Location- and Context-Awareness (LoCA)*, pages 198-209, Germany, May 2005. Springer-Verlag.  
(Acceptance rate: 31% of 84 submissions)

Minkyong Kim, Landon P. Cox, and Brian D. Noble. Safety, Visibility, and Performance in a Wide-Area File System. In *Proceedings of the First USENIX Conference on File and Storage Technologies (FAST)*, pages 131-144, Monterey, CA, January 2002. USENIX Association.  
(Acceptance rate: 19% of 110 submissions)

Minkyong Kim and Brian D. Noble. Mobile Network Estimation. In *Proceedings of the Seventh ACM Conference on Mobile Computing and Networking (MobiCom)*, pages 298-309, Rome, Italy, July 2001. ACM Press.  
(Acceptance rate: 11% of 281 submissions)

Brian Noble, Ben Fleis, Minkyong Kim, and Jim Zajkowski. Fluid Replication, In *Proceedings of the Network Storage Symposium (NetStore)*, Seattle, WA, October 1999.

## **Thesis**

Minkyong Kim. Ph.D. Thesis: Providing Safety and Visibility for Mobile Users. Computer Science and Engineering, University of Michigan, August 2004.

Minkyong Kim. M.S. Thesis: A Mechanism for Imposing Inclusion Property in a Hierarchical Bus NUMA-RC Multiprocessor System. Computer Engineering, Seoul National University, August 1998.

## Technical Reports

Guanling Chen, Heng Huang, and Minkyong Kim. Mining Frequent and Periodic Association Patterns. Technical Report TR2005-550, Department of Computer Science, Dartmouth College, May 2005.

Minkyong Kim and David Kotz. Classifying the Mobility of Users and the Popularity of Access Points. Technical Report TR2005-540, Department of Computer Science, Dartmouth College, May 2005.

Minkyong Kim, Brian D. Noble, Xichu Chen and Dawn Tilbury. Data Propagation in a Distributed File System. University of Michigan Technical Report CSE-TR-490-04, July 2004.

Minkyong Kim and Brian D. Noble. SANE: Stable Agile Network Estimation. University of Michigan Technical Report CSE-TR-432-00, August 2000.

## Invited Talks

“Understanding and modeling Wi-Fi users.” Colloquium at the State University of New York (SUNY) at Buffalo, Buffalo, NY, November 10, 2005. (Host: Prof. Chunming Qiao)

“Understanding and modeling Wi-Fi users.” Colloquium at Rochester Institute of Technology (RIT), Rochester, NY, November 7, 2005. (Host: Prof. Zack Butler)

“Extracting mobility characteristics from traces of mobile users.” Intel Research Laboratory at Seattle, Seattle, WA, June 9, 2005. (Host: Dr. Yatin Chawathe)

“Providing safety and visibility for mobile users.” Computer Science Colloquium at Dartmouth College, Hanover, NH, November 8, 2004. (Host: Prof. David Kotz)

## PROFESSIONAL ACTIVITIES

### **Program Committee**

The First Annual International Conference on Mobile Computing, Applications, and Services (MOBICASE), San Diego, California, October, 2009.

The Second IEEE International Workshop on Real-Time Service-Oriented Architecture and Applications (RTSOAA), Seattle, Washington, July 2009.

Fourth International Workshop on Location- and Context-Awareness (LoCA), Tokyo, Japan, May 2009.

Tenth International Conference on Ubiquitous Computing (UbiComp) (Both main conference and posters), Seoul, South Korea, September, 2008.

Eleventh ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Vancouver, British Columbia, Canada, October, 2008.

33rd IEEE Conference on Local Computer Networks (LCN), Montreal, Quebec, Canada, October, 2008.

Tenth ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Chania, Crete Island, October, 2007.

32nd IEEE Conference on Local Computer Networks (LCN), Dublin, Ireland, October, 2007.

Third International Workshop on Location- and Context-Awareness (LoCA), Germany, September 2007.

IEEE International Workshop on Intermittently Connected Mobile Ad hoc Networks (ICMAN), NY, March 2007.

31st IEEE Conference on Local Computer Networks (LCN), Tampa, Florida, November 2006.

Ninth ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Spain, October 2006.

Twelfth IEEE International Conference on Parallel and Distributed Systems (ICPADS), Minneapolis, MN, July 2006.

IEEE International Workshop on Delay Tolerant Mobile Networks (DTMN), Vancouver, Canada, July 2006.

Third International Cross-Disciplinary Workshop on Web Accessibility (W4A), Edinburgh, Scotland, UK, May 2006.

Second International Workshop on Location- and Context-Awareness (LoCA), Ireland, May 2006.

Eighth ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Quebec, Canada, October 2005.

## **Other Activities**

### **Program Chair**

(with Cecilia Mascolo and Mirco Musolesi)

First ACM SIGMOBILE International Workshop on Mobility Models for Networking Research (in conjunction with MobiHoc 2008), Hong Kong, May 2008.

### **Late Breaking Results Co-chair**

(with James Scott)

Ninth International Conference on Ubiquitous Computing (UbiComp), Innsbruck, Austria, September 2007.

## **Paper Refereeing**

IEEE Transactions on Mobile Computing

Transactions of the Society for Computer Simulation (SCS)

11th International Conference on Ubiquitous Computing, 2009.

28th International Symposium on Reliable Distributed Systems September, 2009.

MSWiM '06 and '05, NetGames '05

MobiSys '04 and '03, MobiCom '01

SOSP '01, OSDI '02, WMCSA '02,

Pervasive '07, UbiComp '02 and '01

## **AWARDS**

Summer 1999      EECS Summer Research Fellowship. University of Michigan.

1998-1999      Doctoral Study Abroad Scholarship. Korea Foundation for Advanced Studies.

1994-1995      Academic Excellence Scholarship. Seoul National University.

## TEACHING EXPERIENCES

### Teaching Assistant

1997                      Department of Computer Engineering  
Seoul National University  
*Graded homework assignments and assisted students in VLSI design.*

### Students Supervised

10/2004-present      Libo Song: Doctoral student.  
*Supervised Ph.D. proposal and dissertation.*

6/2005-present        Jeffrey Fielding: Undergraduate student.  
*Co-authored a paper published at Pervasive 2006.*

Summer 2005           Nick DeFrancis: High school student.  
*Supervised the collection of user-location data.*