

Fei Dai

Contact

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Education

Ph.D. in Computer Engineering, *Florida Atlantic University*, Boca Raton, FL, Aug. 2005
M.S. in Computer Science, *Nanjing University*, Nanjing, China, July 1993
B.S. in Computer Science, *Nanjing University*, Nanjing, China, July 1990

Professional Experience

North Dakota State University *Assistant Professor*
Fargo, ND **Aug. 2005 – Present**
Teaching, laboratory and course development, research, advising, and service. Research interests:
Networking and Mobile Computing.

Florida Atlantic University *Research Assistant/Teaching Assistant*
Boca Raton, FL **Jan. 2001 – Aug. 2005**
Researched lightweight and local acting protocols for effective wireless networking, with a focus
on wireless ad hoc and sensor networks. Published thirty referred papers, including five in IEEE
Transactions. Taught four undergraduate courses and four lab sessions.

Motorola *Consultant*
Plantation, FL **Dec. 2002 – Dec. 2003**
Analyzed Ergonomic software for Motorola iDEN cell phones. Created automatic architecture ex-
traction tools to relieve the scalability problem.

Great Wall Computer/Guotai Juan *Senior Software Engineer/Architect*
Securities
Shenzhen, China **Aug. 1993 – Dec. 2000**
Developed desktop publication software, real time and embedded systems, work flow and groupware,
E-commerce, and other large scale network applications, for two top companies of China.

Nanjing University *Research Assistant*
Nanjing, China **Aug. 1990 – July. 1993**
Designed distributed algorithms including distributed task scheduling, distributed shared memory,
and parallel logical programming, in the National Key Lab on Distributed Computing.

Teaching Experience

ECE 374 *Computer Organization*, North Dakota State University, Spring 2006.
ECE 403 *Design II*, North Dakota State University, Fall 2005.
COT 4400 *Design and Analysis of Algorithms*, Florida Atlantic University, Spring 2005.
CDA 3201 *Introduction to Logic Design*, Florida Atlantic University, Spring 2004.
COP 3530 *Data Structure and Algorithm Analysis*, Florida Atlantic University, Spring 2003.
COT 3002 *Foundations of Computer Science*, Florida Atlantic University, Fall 2002.

Honors and Awards

Best Paper Award, IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS),

Nov. 2005

Graduate Fellowship for Academic Excellence, Florida Atlantic University, 2003-2004

The honor society of *Phi Kappa Phi*, member since Apr. 2003

Professional Activities

Conference Organization Committee: MASS 2006, LOCAN 2006.

Conference Technical Program Committee: MSN 2005, LOCAN 2005, RPMSN05, InterSense 2006, ICC 2006, AINA06, PCAC06, IEE Mobility 2006, SAWN 2006, ChinaCom 2006, MSN 2006, IC3N 2006, WCNC 2007.

NSF Panelist: Nov. 2005

Journal Reviewer: IEEE Transactions on Wireless Communications, IEEE Transactions on Mobile Computing, IEEE Transactions on Parallel and Distributed Systems.

Publications

Book Chapter

1. J. Wu and F. Dai. Mobility Control and Its Applications in Mobile Ad Hoc Networks. In *Handbook of Algorithms for Wireless Networking and Mobile Computing*, Azzedine Boukerche, Ed., Chapman & Hall/CRC, 2006.

Magazine Article

1. J. Wu and F. Dai. Mobility Control and Its Applications in Mobile Ad Hoc Networks, *IEEE Network*, Vol.18, No.4, pg.30-35, July/Aug. 2004.

Journal Publications

1. J. Wu and F. Dai. Virtual Backbone Construction in MANETs using Adjustable Transmission Ranges. *IEEE Transactions on Mobile Computing*. Accepted.
2. J. Wu, M. Cardei, F. Dai and S. Yang. Extended Dominating Set and Its Applications in Ad Hoc Networks Using Cooperative Communication. *IEEE Transactions on Parallel and Distributed Systems*. Accepted.
3. J. Wu and F. Dai. Mobility-Sensitive Topology Control in Mobile Ad Hoc Networks. *IEEE Transactions on Parallel and Distributed Systems*, vol. 17, no. 6, pp. 522-535. June, 2006.
4. F. Dai and J. Wu. Efficient Broadcasting in Ad Hoc Networks Using Directional Antennas. *IEEE Transactions on Parallel and Distributed Systems*, vol. 17, no. 4, pp. 321-334. Apr., 2006.
5. J. Wu, W. Lou, and F. Dai. Extended Multipoint Relays to Determine Connected Dominating Sets in MANETs. *IEEE Transactions on Computers*, vol. 55, no. 3, pp. 334-347. Mar., 2006.
6. F. Dai and J. Wu. A Highly Reliable Multi-Path Routing Scheme for Ad Hoc Wireless Networks. *International Journal of Parallel, Emergent and Distributed Systems*. vol. 21, no. 3/4, pp. 205-220. 2006.
7. F. Dai, Q. Dai, and J. Wu. Power efficient routing trees for ad hoc wireless networks using directional antenna. *Ad Hoc Network* (Elsevier), vol. 3, no. 5, pp. 621-628. Sep., 2005.
8. J. Wu and F. Dai. Efficient Broadcasting with Guaranteed Coverage in Mobile Ad Hoc Networks. *IEEE Transactions on Mobile Computing*. Vol.4, No.3, May/June 2005.

9. F. Dai and J. Wu. Performance Analysis of Broadcast Protocols in Ad Hoc Networks Based on Self-Pruning. *IEEE Transactions on Parallel and Distributed Systems*. Vol.15, No.11, pg.1027-1040, Nov. 2004.
10. J. Wu and F. Dai. A Generic Distributed Broadcast Scheme in Ad Hoc Wireless Networks. *IEEE Transactions on Computers*, Vol.53, No.10, pg.1343-1354, Oct. 2004.
11. F. Dai and J. Wu. An Extended Localized Algorithm for Connected Dominating Set Formation in Ad Hoc Wireless Networks. *IEEE Transactions on Parallel and Distributed Systems*, Vol.15, No.10, pg.902-920, Oct. 2004.
12. J. Wu, F. Dai, X. Lin, J. Cao, and W. Jia. An Extended Fault-Tolerant Link-State Routing Protocol in the Internet. *IEEE Transactions on Computers*, Vol.52, No.10, pg.1298-1311, Oct. 2003.
13. J. Wu and F. Dai. Broadcasting in Ad Hoc Networks Based on Self-Pruning. *International Journal of Foundations of Computer Science*, Vol.14, No.2, pg.201-221, Apr. 2003.
14. J. Wu and F. Dai, Qos Routing in Hypercube Multicomputers. *Parallel Processing Letters*, Vol.13, No.1, pg.43-52, Mar. 2003.
15. J. Wu and F. Dai. On Locality of Dominating Set in Ad Hoc Networks with Switch-On/Off Operations. *Journal of Interconnection Networks, Special Issue on Algorithms for Networks*, Vol.3, No.3/4, pg.129-147, Sep./Dec. 2002.
16. J. Wu, F. Dai, M. Gao, and I. Stojmenovic. On Calculating Power-Aware Connected Dominating Sets for Efficient Routing in Ad Hoc Wireless Networks. *Journal of Communications and Networks*, Vol.4, No.1, pg.50-70, Mar. 2002.
17. Jiangqiang Zhou, Li Xie, Fei Dai, and Zhongxiu Sun. Adaptive memory coherence algorithms in DSVM. *Journal of Computer Science and Technology*, Vol.9, No.4, 1994.
18. Yuhua Zheng, Fei Dai, and Li Xie. A parallel execution model for logical programs with interdependent "AND" operations. *Computer Research and Development (in Chinese)*, Vol.30, No.11, 1993.

Conference Proceedings

1. F. Dai and J. Wu. View Consistency for Reliable Topology Control in Mobile Ad Hoc Networks. In *Proceedings of the 2005 IEEE Global Telecommunications Conference (Globecom 2005)*. Nov./Dec. 2005.
2. J. Wu, F. Dai, and S. Yang. Iterative Local Solution for Connected Dominating Set in Ad Hoc Wireless Networks. In *Proceedings of the Second IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2005)*. Nov. 2005.
3. S. Yang, F. Dai, M. Cardei, and J. Wu. On Multiple Point Coverage in Wireless Sensor Networks. In *Proceedings of the Second IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2005)*. Nov. 2005. (Best paper award)
4. F. Dai and J. Wu. Efficient Broadcasting in Ad Hoc Networks Using Directional Antennas. In *Proceedings of IFIP Networking 2005*, May 2005.
5. F. Dai and J. Wu. Proactive Route Maintenance in Ad Hoc Wireless Networks. In *Proceedings of the IEEE 2005 International Conference on Communications (ICC 2005)*. May 2005.
6. F. Dai and J. Wu. Constructing k-Connected k-Dominating Set in Wireless Networks. In *Proceedings of the 19th International Parallel and Distributed Processing Symposium (IPDPS 2005)*. Apr. 2005.

7. C. Huang, F. Dai, and J. Wu. On-Demand Location-Aided QoS Routing in Ad Hoc Networks. In *Proceedings of the 2004 International Conference on Parallel Processing (ICPP 2004)*, pg. 502-509, Aug. 2004.
8. J. Wu and F. Dai. Mobility-Sensitive Topology Control in Mobile Ad Hoc Networks. In *Proceedings of the 18th International Parallel and Distributed Processing Symposium (IPDPS 2004)*, pg.502-509, Apr. 2004.
9. J. Wu and F. Dai. A Distributed Formation of a Virtual Backbone in MANETs using Adjustable Transmission Ranges. In *Proceedings of the 24th International Conference on Distributed Computing Systems (ICDCS 2004)*, Mar. 2004. (*one of the four papers nominated for the best paper award.*)
10. J. Wu and F. Dai. Mobility Management and Its Applications in Efficient Broadcasting in Mobile Ad Hoc Networks. In *Proceedings of the 23rd Conference of the IEEE Communications Society (INFOCOM 2004)*, Mar. 2004.
11. F. Dai and J. Wu. Performance Analysis of Broadcast Protocols in Ad Hoc Networks Based on Self-Pruning. In *Proceedings of the IEEE Wireless Communications and Networking Conference 2004 (WCNC 2004)*, Mar. 2004.
12. F. Dai and J. Wu. Distributed Dominant Pruning in Ad Hoc Networks. In *Proceedings of the IEEE 2003 International Conference on Communications (ICC 2003)*, Vol.1, pg.353-357, May 2003.
13. J. Wu and F. Dai. A Generic Distributed Broadcast Scheme in Ad Hoc Wireless Networks. In *Proceedings of the 23rd International Conference on Distributed Computing Systems (ICDCS 2003)*, pg.460-468, May 2003. (*one of the four papers nominated for the best paper award.*)
14. J. Wu and F. Dai. A Generic Broadcast Protocol in Ad Hoc Networks Based on Self-Pruning. In *Proceedings of the 17th International Parallel and Distributed Processing Symposium (IPDPS 2003)*, 29a, Apr. 2003.
15. J. Wu and F. Dai, An Extended Link Reversal Protocol in Dynamic Networks. In *Proceedings of the 17th International Parallel and Distributed Processing Symposium (IPDPS 2003)*, 73b, Apr. 2003.
16. J. Wu and F. Dai. Broadcasting in Ad Hoc Networks Based on Self-Pruning. In *Proceedings of the 22nd Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM 2003)*, Vol.3, pg.2240-2250, Mar./Apr. 2003.
17. F. Dai and J. Wu. On Independently Finding Converging Paths in Internet. In *Proceedings of the 14th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2002)*, 373-005, Nov. 2002.
18. F. Dai, M. Dhawan, C. Wu and J. Wu. On Solutions to a Seating Problem. In *Proceedings of the ISCA 15th International Conference on Parallel and Distributed Computing Systems*, pg.398-403, Sep. 2002.
19. F. Dai and E. B. Fernandez. An Analysis Pattern for the Request and Allocation of Limited Resources. In *Proceedings of the 17th European Conference on Pattern Languages of Programs (EuroPLoP)*, July 2002.
20. J. Wu and F. Dai. Qos Routing in Hypercube Multicomputers. In *Proceedings of the Workshop on Self-Healing, Adaptive, and self-MANaged systems (SHAMAN)*, June 2002.
21. J. Wu and F. Dai. On Locality of Dominating Set in Ad Hoc Networks with Switch-On/Off Operations. In *Proceedings of the 2002 International Symposium on Parallel Architectures, Algorithms and Networks (I-SPAN '02)*, pg.85-90, May 2002.