Joengmin Hwang

Department of Computer Science and Engineering
University of Minnesota
4-192 EE/CS Building
200 Union Street SE
Minneapolis, MN 55455

Phone: (612) 532-0845
E-mail: jhwang@cs.umn.edu
URL: http://www.cs.umn.edu/~jhwang

Gender: Female

RESEARCH INTERESTS

Wireless networks, network security, sensor networks, distributed embedded systems, mobile ad-hoc networks, mobile computing, cyber-physical applications, ubiquitous computing, smart devices, network modeling and simulation, localization techniques, cryptography, and spatial data mining.

EDUCATION

University of Minnesota, Minneapolis, MN.
Ph.D. candidate in Computer Science with expected completion in December 2007.
Advisors: *Yongdae Kim and Tian He.*
Thesis Title: *In-Situ Sensing Area Modeling and Location Proof.*

University of Minnesota, Minneapolis, MN.
M.S. in Computer Science, 2004.

Korea University, Seoul, Korea.
B.E. in Architectural Engineering, 1999.

PROFESSIONAL EXPERIENCES

Embedded Sensor System Research Group
Department of Computer Science, University of Minnesota, Minneapolis.
Research Assistant, 2005-2007.
Worked on the Sensing Area Modeling (SAM) project. Designed and implemented SAM – a technique that reflects sensing irregularity in the realistic environment in wireless sensor networks.

Network Security Research Group
Department of Computer Science, University of Minnesota, Minneapolis.
Research Assistant, 2004-2007.
Worked on Secure Localization project. Developed secure localization, location verification techniques and location-aware applications in wireless sensor networks and WLAN.

HONORS AND AWARDS

ACM SenSys, Student Travel Grant, 2007.

Graduate School Tuition Fellowship, University of Minnesota, 2002.

ITA Oversea Scholarship, Korean Government, 2001.

PUBLICATION

Mining Spatio-Temporal Cohesive Networks.
Jin Soung Yoo and **Joengmin Hwang**.
In submission.

Secure Localization with Phantom Node Detection.
Joengmin Hwang, Tian He and Yongdae Kim.
To appear in ***Elsevier Journal of Ad Hoc Networks****.*

Exploring In-Situ Sensing Irregularity in Wireless Sensor Networks.
Joengmin Hwang, Tian He and Yongdae Kim.
*To appear in Proceedings of the 5th ACM International Conference on Embedded Networked Sensor Systems (****SenSys '07****), November 2007*, Acceptance rate 16%.

uSense: A Unified Asymmetric Sensing Coverage Architecture for Wireless Sensor Networks.
Yu Gu, **Joengmin Hwang**, Tian He and David Hung-Chang Du.
*In Proceedings of the 27th IEEE International Conference on Distributed Computing Systems (****ICDCS '07****), June 2007*, Acceptance rate 13%.

Detecting Phantom Nodes in Wireless Sensor Networks.
Joengmin Hwang, Tian He and Yongdae Kim.
*In Proceeding of the 26th IEEE International Conference on Computer Communications (****INFOCOM '07 Mini-Symposiums****), May 2007, Pages 2391-2395*, Acceptance rate for INFOCOM main track was 18%, the next ranked 7% were selected for Minisymposiums.

Realistic Sensing Area Modeling.
Joengmin Hwang, Yu Gu, Tian He and Yongdae Kim.
*In Proceeding of the 26th IEEE International Conference on Computer Communications (****INFOCOM '07 Mini-Symposiums****), May 2007, Pages 2421-2425*, Acceptance rate for INFOCOM main track was 18%, the next ranked 7% were selected for Minisymposiums.

Achieving Realistic Sensing Area Modeling.
Joengmin Hwang, Tian He and Yongdae Kim.
*In Proceedings of the 4th ACM International Conference on Embedded Networked Sensor Systems (****SenSys '06 Poster****), October 31 - November 3, 2006, Pages 415-416.*

Energy Efficient Organization of Mobile Sensor Networks.
Joengmin Hwang, David Hung-Chang Du and Ewa Kusmierek.
In ***Journal of Parallel Algorithms Appl.*** *2005. Vol.20(3-4), Pages 221-233.*

Revisiting Random Key Pre-distribution Schemes for Wireless Sensor Networks.
Joengmin Hwang and Yongdae Kim.
*In Proceedings of the 2nd ACM Workshop on Security of Ad Hoc and Sensor Networks (****SASN '04****), October 2004, Pages 43-52.*

Energy Efficient Organization of Mobile Sensor Networks.
Joengmin Hwang, David Hung-Chang Du and Ewa Kusmierek.
*In Proceedings of the 33rd International Conference on Parallel Processing Workshops (****ICPP '04 Workshops****), August 2004, Pages 84-91.*

PRESENTATIONS

"Exploring In-Situ Sensing Irregularity in Wireless Sensor Networks." SenSys 2007.

"Detecting Phantom Nodes in Wireless Sensor Networks." INFOCOM Mini-Symposiums 2007.

"Realistic Sensing Area Modeling." INFOCOM Mini-Symposiums 2007.

"Revisiting Random Key Pre-distribution Schemes for Wireless Sensor Networks." SASN 2004.

"Energy Efficient Organization of Mobile Sensor Networks." ICPP Workshops 2004.

PAPER REVIEW

IEEE Symposium on Security and Privacy 2007.

IJSNet 2007.

IEEE WoWMoM 2007.

IEEE INFOCOM 2006.

IEEE/CreateNet SecureComm 2005.

REFERENCES

Professor Yongdae Kim
Assistant Professor
Department of Computer Science and Engineering
University of Minnesota
4-225E EE/CSci Building
200 Union Street SE
Minneapolis, MN 55455
Phone: (612) 626-7526
E-mail: kyd@cs.umn.edu

Professor Tian He
Assistant Professor
Department of Computer Science and Engineering
University of Minnesota
4-205 EE/CSci Building
200 Union Street SE
Minneapolis, MN 55455
Phone: (612) 626-1281
E-mail: tianhe@cs.umn.edu

Professor Zhi-Li Zhang
Qwest Chair Professor
Department of Computer Science and Engineering
University of Minnesota
6-187 EE/CSci Building
200 Union Street SE
Minneapolis, MN 55455
Phone: (612) 625-8568
E-mail: zhzhang@cs.umn.edu

Professor Andrew M. Odlyzko
ADC Professor, Assistant Vice President for Research, and DTC Director
Digital Technology Center
University of Minnesota
495 Walter Library
117 Pleasant St. SE
Minneapolis, MN 55455
Phone: (612) 624-9510
E-mail: odlyzko@umn.edu