

Kyriakos G. Karenos

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OBJECTIVE To obtain a position at a research institute or company, particularly targeting the area of distributed processing systems, wireless and pervasive computing and sensor networks.

EDUCATION **University of California Riverside, Riverside, CA USA**

Ph.D. Candidate, Computer Science and Engineering, Expected May 2008

- Dissertation Topic: “Quality of Service in Event-based Wireless Sensor Networks”
- Advisors: Dr. Vana Kalogeraki & Dr. Srikanth Krishnamurthy

M.Sc, Computer Science and Engineering, August 2005

- Dissertation Topic: “Cluster-Based Congestion Control for Supporting Multiple Classes of Traffic in Sensor Networks”
- GPA: 3.830 / 4.000

University of Cyprus, Nicosia, Cyprus

B.Sc., Computer Science, May, 2002

- Dissertation Topic: “Mobile Agents to Support the Definition and Materialization of Shareable and Personalized Views Over Distributed Web-Accessible Databases”
- Advisor: Dr. George Samaras
- GPA: 8.100 / 10.000

RESEARCH INTERESTS Distributed Systems, Quality of Service Support, Ubiquitous Sensor Networks, Real-Time Systems, Overlay networks, Event-driven Networks, Mobile Computing.

PROFESSIONAL EXPERIENCE **IBM, TJ Watson Research Center, Hawthorne NY May, 2007 – September 2007**
Graduate Research Intern at the Next Generation Distributed Systems Department. (Mentor: Dr. Hao Yang), Secure and Resilient Overlay Multicasting for Event-Driven Applications.

IBM, TJ Watson Research Center, Hawthorne NY May, 2006 – September 2006
Graduate Research Intern at the Next Generation Distributed Systems Department. (Mentor: Dr. Dimitrios Pendarakis), Modeling, Analysis and Implementation of an Internet-based Overlay Middleware for Resiliency and QoS Provision in Event-driven Systems.

University of California, Riverside, Riverside, CA January, 2004 – Present
Graduate Student Researcher, Distributed Real-Time Systems Laboratory (Co-advised Dr. V. Kalogeraki, Dr. S. Krishnamurthy). Design, Analysis and Implementation of Distributed Components for Quality of Service provision in Event-based Sensor Networks:

- Traffic Management in Pervasive Sensors Networks: The presence of pervasive sensing environments is becoming more and more prominent in areas such as home health care, cyber-physical systems and military patrolling which may assume or require mobile data receivers (sinks). Congestion avoidance is critical to maintain quality of service and to ensure efficient utilization of scarce network resources. Congestion control has been studied so far under the assumption of a static sink. In this project I have studied and tackled the challenges incurred by a mobile sink in pervasive event-based sensing systems. The challenges for traffic management in this context

University of Cyprus, Nicosia, Cyprus

June 2001 - September 2001

Undergraduate Researcher, MADLIB (Mobile Agents Digital Library) program (Dr. G. Samaras),

PUBLICATIONS

- K. Karenos, Vana Kalogeraki, S.V. Krishnamurthy, "Cluster Based Congestion Control in Sensor Networks." *ACM Transactions on Sensor Networks*, Vol. 4, Iss. 1, Feb. 2008.
- Parijat Dube, Nagui Halim, Kyriakos Karenos, Minkyong Kim, Zhen Liu, Srinivasan Parthasarathy, Dimitrios Pendarakis, Hao Yang, "HARMONY: Holistic Messaging Middleware for Event-Driven Systems", to appear in *IBM Systems Journal*, 2008
- K. Karenos and Vana Kalogeraki, "Facilitating Congestion Avoidance in Sensor Networks with a Mobile Sink", *IEEE Real Time Systems Symposium (RTSS)*, December 3-6 2007, Tucson, AZ.
- K. Karenos and Vana Kalogeraki, "Real-time Traffic Management in Sensor Networks", *IEEE Real Time Systems Symposium (RTSS)*, December 5-8 2006, Rio De Janeiro, Brazil.
- K. Karenos, Vana Kalogeraki, S.V. Krishnamurthy "A Rate Control Framework for Supporting Multiple Classes of Traffic in Sensor Networks", *Real Time Systems Symposium (RTSS)*, December 6-8 2005, Miami, FL.
- K. Karenos, Vana Kalogeraki, S.V. Krishnamurthy, "Cluster-based Congestion Control for Supporting Multiple Classes of Traffic in Sensor Networks", *The Second Workshop on Embedded Network Systems EMNETS-II*, 30-31 May 2005, Sydney, Australia.
- K. Karenos, A. Khan, S.V. Krishnamurthy, M. Faloutsos, X. Chen, "Power Adaptive Broadcast in Wireless Ad-hoc Networks: Maintaining Local versus Global State", *Wireless Communication and Networks Conference, WCNC*, March 13-17 2005, New Orleans, LA
- K. Karenos, G. Samaras, P. Chrysanthis, E. Pitoura, "Mobile-Agents for Database View Materialization." , *SIGMOBILE MC²R Mobile Computing and Communications Review*, 2004.
- G. Samaras, K. Karenos, E. Chistodoulou, "A Grid Service Framework for Metadata Management in Self e-Learning Networks", *2nd European Across-Grids*, Jan. 28-30 2004, Nicosia, Cyprus.
- G. Samaras, K. Karenos, P. Chrysanthis, E. Pitoura, "ViSMA: Implementation of Extendible Mobile-Agent Based Services for the Materialization and Maintenance of Shareable and Personalized Web Views." *Mobility in databases and Distributed Systems, MDDS - DEXA Workshops*, September 1-5 2003, Prague, Czech Republic .
- K. Karenos, D. Pendarakis, V. Kalogeraki, Z. Liu, "A Holistic Overlay Infrastructure for Event-Driven Applications in Unreliable Geographic Regions". *Under submission*.
- K. Karenos, V. Kalogeraki, "Traffic Management in Sensor Networks with a Mobile Sink" *IEEE Transaction on Parallel and Distributed Systems*, 2008. *Under submission*.

ACADEMIC PROJECTS

Web: <http://www.cs.ucr.edu/~kkarenos/academic/research.html>

- Single Path Vs Tree-based Data-Centric Fusion Routing for Sensor Networks, (CS-236 Database Management Systems, Dr. Dimitrios Gunopulos).
- Performance Evaluation of Omniscient Versus Localized Power Efficient Broadcasting Algorithms in Wireless Ad-hoc Networks (CS-260, Energy Aware Wireless Networks Seminar, Dr. S.K. Krishnamurthy).
- Spam Mail Characterization Using Data Mining Techniques. (EPL 603, Advance Database Management, Dr. A. Pattichis at UCY).
- Ad-hoc Wireless test-bed in Linux Environment and Evaluation of Queuing Disciplines under Real Network Traffic (EPL 611, Advanced Commun. Networks, Dr. A. Pitsillides at UCY).
- Partial constrain preserving XML-to-DBMS and DBMS-to-XML transformation system (EPL 612, Advanced Internet Technologies, Dr. M. Dikaiakos at UCY).
- May 2002: Implementation of a collaborative mobile agent based system for mapping an unknown restricted network using Voyager ORB (EPL 618, Mobile Computing, Dr. G. Samaras at UCY).
- Dec 2001: Inter-agent collaboration and communication framework proposed in "Engineering Issues in Inter-Agent Dialogues" (In Proceedings of ECAI 2002) by N. Karacapilides, P. Moraitis (at UCY).

COMPUTER SKILLS

- Sensor Networks: C Programming for AVR Processors (AVRLib) / TinyOS / nesC

- Attended Crossbow's Mote 3-day Training Seminar on TinyOS, San Francisco, CA, (July 2004)
- Networking: Network Simulator (ns-2), OPNET Simulator
- Programming Languages: C/C++ (STL), Java, Visual Basic, Prolog, SQL, Pascal, Modula2.
- Operating Systems: Linux, MS Windows and Windows Mobile, Mac O/S.
- Extended Java Libraries: Swing, AWT, JAXP, RMI, Servlets and JSP, Sockets, J2ME, CORBA
- Java Mobile Agents: Recursion Voyager ORB, IBM Aglets
- Web (Standards & Scripting): HTML, CSS, XML/XML Schema, RDF, ASP

HONORS AND AWARDS

- Student Travel Award, IEEE Real Time Systems Symposium, December 2006.
- University of California, Riverside Dean's Fellowship Award (2003-2005).
- Military Second Lieutenant with the Cyprus National Guard (Jun 1996 – Aug. 1998).

PROFESSIONAL ACTIVITIES

- Student member of IEEE Computer Society, ACM.
- Reviewer for Ad-Hoc Networks Journal, IEEE Transactions on Mobile Computing Journal, IEEE Communications Letter.
- External Reviewer for RTSS-05, ACM Transactions on Sensor Networks, DSN-06, MASS-05, MobiHoc-05, EDBT-05, EWSN-05, ICPS-05, ISORC-06, Networking-07, Percomm-06.
- Volunteer for CLUSTER 2004.

REFERENCES

Dr. Vana Kalogeraki
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Dr. Srikanth Krishnamurthy
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