

Objective : Seeking a challenging research/development position

Education & Background

- Phd, Computer Science, March 2006, University of California, Santa Cruz
- MS, Computer Science, March 2003, University of California, Santa Cruz
- B-Tech, Computer Science and Engineering, May 1998, Institute of Technology, Banaras Hindu University (IT-BHU), Varanasi, India (IIT-JEE Rank 1432 out of Approx. 100,000)
- Total Industry Experience : 2 years & 6 months (Wipro, Wind River Systems)

Computer Skills

- **Networking:** 802.11, Wireless routing protocols, TCP/IP, UDP, ATM, RIP, OSPF, IPv6, MOSPF, DVMRP, PIM, IGMP, Security Protocols, SMTP, HTTP, ARP, WEP, 802.1x
- **Operating Systems:** Linux, Solaris, Windows, VxWorks
- **Networking Tools:** Qualnet, NS2, Netperf, Smartbits, Matlab.
- **Programming Languages:** C, C++, Perl, awk

Research

- Developed multicast routing protocols for wireless ad hoc networks (PUMA, ROMANT, MODA, CLAMMP). Demonstrated superiority over well known protocols using simulations in Qualnet 3.5.
- In addition to minimizing overhead and maximizing packet delivery ratio, we have examined how best to exploit hardware capabilities like multiple channels and directional antennas.
- Implemented PUMA in Linux 2.4.20-8, Red Hat Release 9. (Setup a 6 machine Linux network testbed for testing PUMA). Extensive familiarity with mroute (freely available implementation of DVMRP) code on Linux. The implementation was a deliverable for our funding agency, Raytheon.

Work Experience

- Software Engineer, Wipro Technologies, Bangalore, India, 1998-2000
 - Testing of a C-HTML Browser for a Mitsubishi Mobile Phone
 - Development of a WAP(WML) Browser for a Mitsubishi Mobile Phone
- Teaching Assistant, UCSC, September 2000 – May 2001
 - Was TA for the course “Introduction to Data Structures” based on JAVA (12b)
- Intern, Wind River Systems, Alameda, CA, April 2004-August 2004
 - Establishing the testbed network and automating test suites
 - Generating forwarding and end-to-end performance numbers for various architectures (PentiumIII, Motorola Power Quicc II) for various flavors of VxWorks using the automated test suites, analyzing and fixing the problems identified.
 - Participating in design/code reviews

Important Course Projects (September 2000 – December 2002)

- Implementation of the Dynamic Source Routing Protocol for Wireless Ad Hoc Networks
- Implementation of an Efficient Caching mechanism for Dynamic Source Routing
- Development of a unicast router using the Bellman Ford Algorithm
- Development of a multicast router using Core based Trees
- Comparison of various queuing models, drop front, drop tail, and uniform drop
- A comparison of anomaly based intrusion detection techniques
- Development of a Lisp Interpreter using C++
- A Hex playing computer program using JAVA
- Comparison and implementation of various boosting algorithms for machine learning
- Comparison and implementation of cache coherence algorithms of Distributed Shared Memory
- An Examination of Simultaneous Multi Threading trends in Computer Architecture

Graduate Level Course Work

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|-------------------------------------|--------------------------|---------------------|--------------------------|
| ➤ Data Compression and Image Coding | ➤ Computer Architecture | ➤ Machine Learning | ➤ Computer Security |
| ➤ Computer Performance Evaluation | ➤ Programming Languages | ➤ Wireless Networks | ➤ Software Engineering |
| ➤ Advanced Operating Systems | ➤ Introduction to German | ➤ Data Networks | ➤ Analysis of Algorithms |

Publications

- R. Vaishampayan and J.J. Garcia-Luna-Aceves, "Robust Tree-based Multicasting in Ad-hoc Networks(ROMANT)", Workshop on Multihop Wireless Networks, 23 rd IEEE. International Performance Computing and Communications Conference, Phoenix, Arizona, April 14-17, 2004.
- R. Vaishampayan and J.J. Garcia-Luna-Aceves, "Protocol for Unified Multicasting through Announcements(PUMA)", 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Fort Lauderdale, Florida, October 24-27, 2004.
- R. Vaishampayan and J.J. Garcia-Luna-Aceves, "Robust multicasting in ad hoc networks using trees", International Journal on Wireless and Mobile Computing(IJWMC)
- R. Vaishampayan, J.J. Garcia-Luna-Aceves and Katia Obraczka, "An Adaptive Redundancy Protocol for Mesh Based Multicasting", 2005 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS '05).
- R. Vaishampayan, J.J. Garcia-Luna-Aceves and Katia Obraczka, "Multicasting On Directional Antennas (MODA)", 2nd IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2005).
- R. Vaishampayan, J.J. Garcia-Luna-Aceves and Katia Obraczka, "Redundancy adaptation based on link reliability in Mesh Based Multicasting", Computer Communications Journal.
- R. Vaishampayan, J.J. Garcia-Luna-Aceves and Katia Obraczka, "Cross Layer Ad hoc Multiple channel Multicasting Protocol (CLAMMP)", 3rd IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2005), Under Review.
- Rolando Menchaca-Mendez, Ravindra Vaishampayan, J. J. Garcia-Luna-Aceves, Katia Obraczka, "DPUMA: A Highly Efficient Multicast Routing Protocol for Mobile Ad Hoc Networks", ADHOC-NOW 2005: Lecture Notes in Computer Science, Volume 3738, Oct 2005, Pages 178 - 191

References

- Professor J.J. Garcia-Luna-Aceves, University of California Santa Cruz, 831-459-4153, jj@cse.ucsc.edu
- Professor Katia Obraczka, University of California Santa Cruz, (831) 459-4308, katia@cse.ucsc.edu
- Dan Krejsa, Wind River Systems, Alameda, CA, dan.krejsa@windriver.com
- S.R. Srikumar, Project Manager, Wipro Technologies, Bangalore, India, 91-9845104974, srikumar.sri@wipro.com
- Sharad Srivastava, Vice President Financial Services, Computer Sciences Corporation, Noida, India, 91-9811202427, ssrivastava3@csc.com

For detailed information about Work Experience and Research please visit <http://www.cse.ucsc.edu/~ravindra/>