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Dr. Raja R Harinath *Ph.D (University of Minnesota)*

Summary

Experienced software engineer with good problem-solving and research skills looking for a full-time position in Systems research and development.

Education

Sep 1994 – Dec 2003	Ph.D in Computer Science at the University of Minnesota, Twin Cities Campus
Jun 1989 – Aug 1993	B.E. in Information Technology from B.M.S. Coll. of Engg., Bangalore University, Bangalore, India

Expertise and Interests

Object-Oriented Programming Systems, Distributed Multimedia Applications and Frameworks, Distributed Object Systems, Quality-of-Service in Distributed Frameworks.

Experience

Industry

Apr 2004 – current	<i>Software Engineer, Novell Software Development (I), Ltd. Bangalore, India</i> Working on the Mono project. Mono is an open-sourced implementation of the .NET framework for Linux. Am the maintainer of the C# language compiler that is part of Mono. Also maintain the build system, and the regular expression library.
Oct 2002 – Dec 2002	<i>Student Associate, Central Research Laboratory, Unisys Corp., Roseville, MN.</i> Worked on initial design for new product/service to be offered by the company. Designed a methodology for capacity planning of their ES7000 product for database applications. Involved in planning of work and facilities necessary to implement and verify this methodology.
Sep 1999 – Jan 2000	<i>Research Associate, Honeywell Technology Center, Minneapolis, MN (HTC)</i> Worked on <i>AICE</i> , a QoS-aware network management system prototype for DARPA. Was involved in the detailed design and implementation of the system, particularly admission control and network simulation. Was also responsible for delivering the system to the integrator, and integrating the system with other vendors working on the project.

Experience (continued)

- Feb 1997 – Sep 1997 *Research Associate, HTC, Minneapolis, MN*
Worked on the *HDIMI* project. This project was jointly conducted by HTC and the UofM for the Air Force Research Labs. The project involved building a distributed object-oriented component architecture that uses CORBA and ObjectStore, and provide Multimedia capabilities. The framework was largely written in C++, but involved quite some Java and Tcl/Tk code. Was involved in the detailed design and was responsible for the implementation of the prototype system. Also was involved in the early design of a fault tolerant control network built with COTS components.
- Teaching*
- Spr 2000 – Sum 2002 *Teaching Assistant (TA), Dept. of Computer Science, University of Minnesota, Minneapolis, MN*
TA for several courses: Introduction to Programming (CSci 1901), Algorithms (CSci 4041), and Databases (CSci 5707).
- Spr/Sum 2001 TA for the course *CSci 4041 – Algorithms and Data Structures*. Led recitation sections for 60 students (mainly undergraduates in their junior or senior year) during each semester.
- Spr/Sum/Fall 2000 TA for the course *CSci 1901 – Structure of Computer Programming I*, which involved teaching programming concepts to beginning undergraduate students. Led recitation sections for 60-100 students during each semester.
- Research*
- Sep 1997 – Aug 1999 *Research Assistant with Dr.Jaideep Srivastava, Dept. of Computer Science, UofM*
Worked on the *HDIMI* project from Nov. 1996 to Mar. 1999, both at HTC, and the UofM.
- Sep 1995 – Dec 1996 *Research Assistant with Dr.Jaideep Srivastava, Dept. of Computer Science, UofM*
Some distributed database work. Also involved in the *Presto* project, that was a precursor to my later work on *HDIMI*.
- Feb 1995 – Dec 1995 *Graduate Assistant with the Minnesota Dental Research Centre for Biomechanics and Biomaterials (MDRCBB), UofM. (I held two positions from Sep 95 – Dec 95)*
Ported a Windows based CNC program (to control a profiler) from Win16 to Win32, making it more portable across different CNC boards, and to use contact and laser styluses. Other work included writing a data collection and analysis tool, setting up a web site, and sundry system administration tasks.

Publications and Presentations

- 1 “Experiences with an Object Oriented Framework for Distributed Control Applications”, Raja Harinath, Jaideep Srivastava, Jim Richardson, and Mark Forresti. Appeared in ACM Computing Surveys, Symposium on Object-oriented Application Frameworks. Volume 32, Issue 1 (2000), Article no. 36.
- 2 “Elastic Flows with Deadlines: An abstraction for QoS middleware”, Raja Harinath, and Jaideep Srivastava. Appeared in the SPIE/ACM Conference on Multimedia Computing and Networking 2004 (MMCN 2004), San Jose, CA, Jan 2004.
- 3 “Coverage based Proxy Placement for Content Distribution over the Internet”, Srivatsan Varadarajan, Raja Harinath, Jaideep Srivastava and Zhi-Li Zhang. IEEE ICDCS 2003, International Workshop on New Advances of Web Server and Proxy Technologies, Providence, RI, May 2003.
- 4 “Admission Control and Resource Allocation in Strictly Priority Based Networks”, Allalaghatta Pavan, Vipin Gopal, Nigel Birch, Sejun Song, Raja Harinath, David Castanon, Proceedings of Real-Time Computing Systems and Applications (RTSCA’00), Cheju, Korea, December 2000.
- 5 “Providing Smoother Quality Layered Video Stream”, Srihari Nelakuditi, Raja R Harinath, Ewa Kusmierk and Zhi-Li Zhang. NOSSDAV’00, Raleigh, NC, June 2000.

Publications and Presentations (continued)

- 6 “Adaptive Layer Discard Schemes for Video Delivery over Wireless Networks”, Srihari Nelakuditi, Raja Harinath, Srivatsan Varadarajan, and Zhi-Li Zhang. Appeared in the Proceedings of the 10th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN’99).
- 7 “Revenue based Call Admission Control for Wireless Cellular Networks”, Srihari Nelakuditi, Raja Harinath, Sanjai Rayadurgam, and Zhi-Li Zhang. Appeared in Proceeding of International Conference on Personal Wireless Communications (ICPWC’99), pp. 486-490, Feb 1999, Jaipur, India.
- 8 “A Multimedia Programming Toolkit/Environment”, Raja Harinath, Jaideep Srivastava et.al. Appeared in the International Conference on Parallel and Distributed Systems 1997 (ICPADS’97), Korea.
- 9 “Sonata”, Demonstration of the research prototype software developed as part of the HDIMI effort. Appeared in the Sixth IEEE International Symposium of High Performance Distributed Computing, Aug 1997, Portland OR.

Technical Skills

Programming Languages	C#, C/C++, Java, Haskell, Scheme, TCL/TK
Operating Systems	Linux, Solaris, MS-Windows
Tools	Mono/.NET, CORBA, autoconf/automake, GNOME/GTK+

Awards and Fellowships

Spring 2002 Honeywell Teaching Assistant Fellowship

Other Activities

Community Involvement and Leadership

- Sep 1998 – Sep 2001 I was the moderator of the INDIA-TOWN mailinglist, an information list for people of Indian origin in Minnesota. The list has around 2000 subscribers.
- 1999 I served as a member of the Board of Directors of the Commonwealth Terrace Co-operative (CTC), a family student housing co-op with an annual budget of \$1 million.
- 1998 I served as a member of the Finance and Operations Committee of CTC.

Free Software Development

- GNOME I have been involved with the free software GNOME project. I have largely worked with makefiles, configuration and portability issues. I have write/commit access to the GNOME CVS repository.
- GNU Build System I have contributed several patches to the GNU Build System tools, especially GNU automake and GNU autoconf. I have write/commit access to the GNU automake CVS repository.
- Mono I am part of the open-source team in Novell that maintains the Mono platform. I am the maintainer of Mono’s C# compiler.