Sri Doddapaneni

404 Eagle Drive
Emmaus, PA 18049
(610)966-7451
sridodd@hotmail.com

Objective

Research and development in the areas of distributed systems, compilers and Internet technologies.

Current Employment

Member of Technical Staff in Microelectronics Group of Lucent Technologies in Allentown, PA since August'1998. Responsibilities include conducting R&D in the areas of compiler, debugger and real-time OS for digital signal processors.

Education

Ph.D. CS	Georgia Institute of Technology, Atlanta	1997.
M.S. CS	Georgia Institute of Technology, Atlanta	1991.
B.Tech. CS&E	Indian Institute of Technology, Kharagpur	1986.

Doctoral Dissertation

Automatic dynamic decomposition of programs on distributed memory machines.

Technical Skills

Languages: Java, Javascript, C++, C, SQL, Pascal, Scheme, Fortran, Prolog.
Operating Systems: Unix, Windows 95/NT, DOS.
Networking: TCP/IP, UDP, HTTP, RTP, RTSP, Multicast, SOCKS
Standards: Netscape plug-ins & LiveConnect, Java Beans, ActiveX, CGI, HTML

Work Experience

Postdoc, IBM TJ Watson Research Center, New York, 11/96 - 6/98

- Contributed to the design and development of middle-ware for real-time collaboration on the Internet. The system implements a client-server architecture and provides facilities for building interactive applications that hide network latency. Furthermore the system provides distributed event channels and shared application state maintained at the servers. It was implemented in Java.
- Contributed to the design and development of a framework for synchronous multimedia groupware. The framework provides mechanisms for temporal synchronization of events in groupware applications such as foil show, chat, whiteboard with accompanying media such as audio and video streams. The system supports live broadcast, recording and viewing of a mutlimedia presentation.

Graduate Research Assistant, Georgia Tech, 8/89-7/96

- Worked on compilers and tools for parallelizing regular scientific problems. Designed and implemented key components of PAT, an interactive parallelization tool.
- Developed and evaluated a scheme for data and computation decomposition on distributed memory machines that optimizes for data locality and processor utilization.

- Optimized and measured performance of several parallel benchmark programs for data locality, and communication interleaving on IBM SP2 and KSR-2.
- Designed and evaluated algorithms for hoisting branch conditions in target code. Implemented several program analysis techniques for back-end optimization in the GiL compiler toolkit.
- Developed and evaluated strategies for migrating legacy mainframe based information systems to open distributed systems and relational databases (Oracle).
- Modeled and built prototypes for information systems and real-time systems using CASE tools. Extended the CASE tool, *Software thru Pictures*, to automatically generate a prototype of a real-time system.

Software Engineer, CMC India Ltd., 3/89 - 8/89
Worked on the backend of a C compiler and helped developed a peephole optimizer for the M68000 microprocessor.

Software Engineer, Tata Research Design & Development Ctr, India, 6/86-7/87
Designed and developed an attribute evaluation tool for the semantic analysis and optimization phases of a C compiler. Developed the middle-end of an optimizing C compiler.

Publications

1. "Rapidly Building Synchronous Collaborative Applications By Direct Manipulation." in The Computer Supported Cooperative Work, November, 1998.
2. "Flexible Batching and Consistency Mechanisms for Building Interactive Groupware Applications." in The International Conference on Distributed Computing Systems, May 1998.
3. "Villa: An Event Based Middleware for Real-Time Collaboration on the Internet." in The Fourth International Workshop On Community Networking, September 1997.
4. "Villa++: A Framework for Synchronous Multimedia Collaboration." technical report in progress.
5. "Hoisting Branch Conditions - Improving Super-Scalar Processor Performance." Languages and Compilers for Parallel Computing, August, 1995. LNCS Vol. 1033, pp 304-317, Springer.
6. "A New Algorithm for Global Optimization for Parallelism and Locality." Languages and Compilers for Parallel Computing, August 94. LNCS Vol. 892, Springer.
7. "Aligning Data Structures for Parallelism and Locality." Tech. Rep. GIT-CC-94-20, Georgia Institute of Technology, April 94.
8. "Program Transformation for Locality." Languages and Compilers for Parallel Computing, July 93. LNCS Vol. 768, Springer.
9. "The transition of application programs from COBOL to a Fourth Generation language." Conference on Software Maintenance, Montreal, September 93.
10. "Determining Transformation Sequences for Loop Parallelism." Tech. Rep. GIT-ICS-92/59, Georgia Institute of Technology, November 92.

Patent Applications (filed with US Patent and Trademark Office)

1. "Method for Efficient and Scalable Interaction in a Client-Server System in Presence of Bursty Client Requests."

2. “System and Method for Data Streaming and Synchronization in Multimedia Groupware Applications.”
3. “Flexible State Sharing and Consistency Mechanisms for Interactive Applications.”
4. “Flexible Event Sharing, Batching, and State Consistency Mechanisms for Interactive Applications.”

References

Provided on Request.