Giridhar Ravipati

4849, Sheboygan Ave, Apt #122
Madison WI 53705
Phone - 703-317-7489
giri@cs.wisc.edu

7351 CS&S, 1210 W Dayton St
Madison WI 53706
Office No - 608-265-2311
`http://pages.cs.wisc.edu/~giri`

Objective

Seeking a full-time position in the field of Computer Science focusing on problem solving and development.

Education

University of Wisconsin-Madison **Jun 2006 – present**
M.S. in Computer Science; GPA: 4.0
Expected Graduation Date - May 2008
Coursework - Construction of Compilers(A), Distributed Systems(A), Advanced Natural Language Processing(A), Computer System Modeling Fundamentals(A), Topics in Database Management Systems & Implementation, Introduction to Information Security

George Washington University, DC **Jan 2006 – May 2006**
M.S. in Computer Science; GPA: 3.67
Transferred to UW, Madison
Coursework - Advanced Algorithms(A), Advanced Computer Architecture(A), User Interface Design(B)

Birla Institute of Technology & Science, Pilani, India **Aug 2001 – May 2005**
B.E.(Hons) in Computer Science; GPA: 3.91
Departmental Ranking - 3/120

Experience

Research Assistant, Paradyn project, UW Madison **Summer 2006 – present**
Advisor - Prof. Barton P Miller.
Deconstruction of DyninstAPI & SymtabAPI
During the course of the project, I developed "SymtabAPI", a platform independent library for symbol table, debug information parsing from executables/shared libraries. There have been two major releases of the library till date, with support on 8 different platforms. Current work includes adding more features to symtabAPI such as building XML export/import functionality, rewriting binaries.

Software Engineer, IBM Software Labs(ISL), India **Jul 2005 – Dec 2005**
UNIX Product Test for AIX Corrals
Successfully tested the NFS performance of the AIX corrals(workload partitions). AIX Workload Partitions (wpar) are software created virtualized operating system environments within a single copy of the AIX operating system.

Co-Op, Yahoo!, India **Jan 2005 – Jun 2005**
Development Tools to assist Internationalization
The project involved development of tools using Python, PHP and JavaScript to assist the internationalization drive at Yahoo! During the course of this project I developed a Scanner for C, C++, perl and PHP that reports internationalization errors in source code. This also recommends the users the necessary changes that should be made to develop a i18n error free code.

Publications & Talks

The Effects of Metadata Corruption on NFS, Swetha Krishnan, Giridhar Ravipati, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, Barton P. Miller, *Proceedings of the 3rd International Workshop on Storage Security and Survivability (StorageSS 2007)*

Toward the Deconstruction of Dyninst Giridhar Ravipati, Andrew Bernat, Barton P. Miller, and Jeffrey K. Hollingsworth, *Technical Report, Computer Science Department, University of Wisconsin, Madison*

Deconstruction of Dyninst & SymtabAPI , *2007 Paradyn/Dyninst Week, University of Wisconsin, Madison, April 2007.*

Select Projects

NFS Failure Policy Fingerprinting **Mar 2007 – May 2007**
In this work, we study the failure handling and recovery mechanisms of a widely used distributed file system - the Sun Network File System (NFS). We examine the behavior of NFS upon corruption of important metadata by injecting corruption between different layers of the protocol stack at the NFS server and client. We find that the NFS protocol behaves in unexpected ways; on some occasions incorrect errors are communicated to the client application, and in few cases, success is falsely reported when an operation has not succeeded.

Satire Recognition using NLP techniques **Mar 2007 – May 2007**
In this work we analyze the problem of satire recognition and suggest NLP techniques for differentiating satirical news articles from factual ones. The techniques are tested on large data sets from 'The CNN' and 'The Onion', where the former are representative of true information whereas the latter are satirical, distorted news articles for generating humor. We show that by making the features of the satirical data prominent we can attain better accuracy for classification when compared to regular classification. We use an SVM Classifier for classification with feature vectors modified accordingly.

Compiler Optimizations Based on Profitability **Nov 2006 – Dec 2006**
Compiler optimizations can be performed to improve the performance of a program, although in certain cases applying optimizations degrades the performance. This work involved using conditional code propagation as a technique to check the profitability before applying optimizations (loop invariant code motion in this case) in Simple Suif and does a comprehensive analysis of the various heuristics and frameworks currently used to check the profitability of optimizations.

Implementation of Compiler Optimizations **Sep 2006 – Dec 2006**
Implemented compiler optimizations(global register allocation, loop invariant code motion, copy propagation and removal of useless assignments)on a Simple SUIF-Codegen based compiler suite for the SPARC architecture.

Compiler for the 'CRIB' language **Feb 2004 – May 2004**
Built a compiler for the 'CRIB' language which is an LR(1) grammar. The project included the construction of a hand-coded lexer, LR(1) recursive descent parser, AST generator and an x86 code generator.

Skill Set

Programming Languages: C, C++, Python
Markup & Scripting: XML, HTML, JavaScript, PHP(beginner)
Development Platforms: Windows NT/XP, Linux, Solaris, AIX
Databases: MySql, PL/SQL
Other: DynInst, Simplescalar, Simple SUIF

Achievements

Ranked among top 1% of the batch of 2001 of BITS, Pilani, India.
Third prize in the Sierra Atlantic programmers marathon held in 2004, Hyderabad, India.
Stood 4th(of˜100,000) in the state of Andhra Pradesh, India in EAMCET - 2001.
Stood 9th(of˜100,000) in the state of Andhra Pradesh, India in Intermediate Examinations, 2001.
Pratibha Puraskar by the Govt. of Andhra Pradesh, India in 2001 for excellence in academics.