Carl Magnuson

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Education

University of Minnesota 2008 - Present
MS Student in Computer Science

University of Minnesota 2005 - 2008
Bachelor of Science in Computer Science
Minor in Mathematics

Work Experience

ChampionChip Minnesota Lead Software Engineer
Regional and International Work 1997-Present
Custom programming to support transfer of data from remote timing locations to internet in real-time utilizing RFID technology. Events include Boston Marathon, Grandmas Marathon, Twin Cities Marathon, Jamaica Marathon, New York Marathon, Chicago Marathon, Indianapolis Mini-Marathon.
Responsibilities: Custom programming and configurations of software for each event, database management, connect to remote timing locations and transfer live data, programming to display of results on jumbotron, post results to the internet in real time, report results to media, supervision of volunteers and other event staff.

Action Sports International Event Photographer
New York, NY, Hayward, WI, Minneapolis, MN 2005-Present
Work as part of national team of event photographers to provide complete photographic coverage of athletic events. Events include New York Marathon, American Birkebeiner, Lifetime Fitness Triathlon.

Minnesota Women's Press Computer Consultant
St. Paul, MN 1998-Present
Troubleshoot hardware, software, network; install and configure; make purchasing recommendations.

Andersen Corporation Server Administration Intern
Bayport, MN 2007
Worked with server team, played part in purchasing decisions, receiving and installation of new hardware, software and hardware troubleshooting, maintenance, decommissioning of old hardware, and support for internal users. Received training and hands on experience administering and creating VMWare virtual servers. Performed audit of hardware assets, and oversaw installation and configuration of HP SIM monitoring and alerting software.

Army High Performance Computing Research Center Research Intern
Minneapolis, MN 2006
Applied techniques of high performance computing to research projects utilizing Co-Array Fortran, Message Passing Interface, distributed computing methodologies, data processing, discretization, and visualization. Ran density-functional theoretical simulations on Cray supercomputers to research chemical properties of methyl tert-butyl ether, specifically looking for its transition state when hydrolyzed in neutral and acidic environments.

Other Projects

HOSPITAL: Network Traffic Analyzer Spring 2009
This project focused on the design and implementation of a network traffic analyzer. We designed the system to receive input data from a variety of sensor nodes and data sources, process the data to extract useful characteristics about the system and its change over time and provide alerts for abnormal behavior based on data generated host profiles.

MacroMouse: A Maze Solving Robot Fall 2008
This project focused on the design of a maze solving robot. It covered methods for solving a maze focusing on a real-time search where the robot searches an unknown maze until it nds a goal. The project also included localization and mapping of the maze in real time.

An Intelligent Agent for Retrieval and Monitoring of Tasks Fall 2006
This research endeavored to create an intelligent software system capable of retrieving and displaying a students pertinent coursework. coursework

Qualifications

Programming Languages:
Java (5 yr, significant use)
C (along with OpenMP) (5 yr)
C++ (4 yr)
Fortran (and Co-Array Fortran)
MPI (in Fortran and C)
Lisp
Scheme
JavaScript
Haskell
ML
Prolog
PHP
Perl
Python

Databases:
MySQL (5 yr)
PostgreSQL (with PostGIS spatial extensions)
MS SQL Server
Oracle
Access

Operating Systems:
Mac OS (6-10.5, 10.5 Server) (10 yr)
Windows (95-Vista, Server 2000-2003) (8 yr)
Linux (Ubuntu, Debian, Mandrake, Red Hat) (5 yr)
Unix
Solaris

Tools:
Apache (4 yr)
Tomcat (3 yr)
Postfix
Exchange Server
VMWare (ESX, Fusion, Workstation)
Navicat
Parallels
OpenGL
LaTeX
MatLab
Mathematica
Eclipse
GCC
GDB

Course Work

Discrete Math	Numerical Methods	Machine Architecture
Multivariable Calculus	Linear Algebra	Algorithms
Databases	Artificial Intelligence	Theory of Computation
Programming Languages	Computer Graphics	Internet Programming
Advanced Calculus	Differential Equations	Graph Theory
Networks	Data Mining	Software Engineering
Cryptology	Compilers	Parallel Computing
Combinatorics	Dynamical Systems	Functional Programming Languages
Robotics	Developing Interactive Web	Advanced Networking