

PIYUSH KUMAR

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OBJECTIVE: To obtain an opportunity to contribute to open source project that allows me to use my technical skills and gain valuable experience

EDUCATION:

Carnegie Mellon University, School of Computer Science Dec 2011
Masters : Very Large Information Systems (MSIT- VLIS)

University of Minnesota, Twin Cities May 2010
Bachelor of Computer & Electrical Engineering (Minor: Computer Science)
GPA: 3.55 /4

PROJECTS:

UNIX SYSTEMS PROGRAMMING (ANSI C): January 2010 – May 2010

- Designed and developed a program that takes in a graph file as a text input and executes the processes using wait , fork , execvp and dup2 commands
- Multiprocessor web browser: Implemented an experimental web browser with bookmarks that utilizes multi process system using pipes, IPC, shared memory and other standard process creation tools
- Simulated a multithreaded web server to receive and respond to HTTP requests using UNIX-Pthreads, conditional variables , semaphores and TCP sockets

INTERNET PROGRAMMING (JAVASCRIPT): January 2010 –May 2010

- Developed a polish number calculator using Javascript forms, event handlers & HTML
- Designed a pop up window manipulator using window, document objects & event handlers
- Created a submit form application using server side CGI programming with Python
- Created a form based web application to retrieve the information from database using CGI and AJAX, then implemented the same web application again with JAXER

OBJECT ORIENTED PROGRAMMING & DATA STRUCTURES (JAVA): Fall 2009

- Simulated a colliding balls game using objects, JAVA swing to demonstrate change of momentum in 2D
- Implemented a sparse matrix using linked list and used it for image processing with JAVA swing
- Demonstrated customer traffic simulator by using queues and vector arrays to compare service times of Target and Best Buy
- Designed a strategy game to simulate ant trees using trees, stacks and various tree search techniques such as breadth first search, depth first search and other tree traversal algorithms

SENIOR DESIGN PROJECT: Automated Surveillance system for NCKU, Taiwan Spring 2009

- Collaborated with students from Taiwan to develop an intelligent security system
- Implemented Audio Fingerprinting Algorithm based on research by Haitsma and Kalker
- Used hash algorithms in Matlab to compare two audio files to Implement real time database
- Helped implement an edge detection algorithm using homogenous co-ordinates using Matlab

EXPERIENCE:

Undergraduate Teaching Assistant & Grader Sept 2008 – Spring 2009

- Helped students in understanding the fundamental concepts in electrical engineering by answering their question during office hours.
- Collaborated with instructor and students in grading assignments, quizzes, midterms and finals and uploading the results online.

Engineering Intern, Cummins Power Generation, Fridley, MN May 2008 – Aug2008

- Developed a graphical user interface using Visual Basic to provide technical specification during test cycles of power generators
- Implemented Magic Sets Algorithm using SQL and Visual Basic to search through databases of past records of machine and part specifications
- Formulated a criterion to decide overtime requirement in the manufacturing line, by performing a statistical non linear regression analysis, using Minitab for manufacturing line 15

COMPUTER SKILLS:

Environments: UNIX, Windows, Linux

Programming Languages: C, MIT-Scheme, Java, JavaScript, Ajax, Python, HTML, Assembly Language

Database: SQL Oracle10g

Applications: Microsoft Office Suite, MATLAB, Minitab

AWARDS & HONORS:

University of Minnesota -Institute of Technology - Deans List

University of Minnesota and Graco Inc. Scholarship

International Students' Scholarship – University of Minnesota

Eta Kappa Nu - Electrical Engineering Honor Society

ACTIVITIES:

Eta Kappa Nu - Tutor

Member: Institute of Electrical and Electronics Engineers (IEEE), UMN Chapter

Member: ACM, UMN Chapter