Leena Kora

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OBJECTIVE

To obtain an internship or a co-op position that allows me to utilize my programming skills and gives me an opportunity to learn new technologies. I am looking for a position in the field of either graphics and animation programming, software engineering in scientific visualization or web 2.0 based web application development.

EXPERIENCE

Research Assistant, Scientific Computing & Imaging Institute, University of Utah, Salt Lake City. 2006-2007
I am currently working with Dr Steven G. Parker as research assistant in SCI (Scientific Computing and Imaging) Institute. I am involved in developing novel visualization techniques for rendering large scale data. My responsibilities include software design and development of Manta and Dashboard, a Department of Energy, US sponsored project.

I have also been responsible for adding novel scientific visualization algorithms for a real time ray tracer called Manta. Manta is being developed by University of Utah's SCI institute. My aim was to use Perlin Noise to create new textures like bump, cloud etc. I have implemented Oren Nayar Material model in Manta.

EDUCATION

Graduate Studies **2006-2008**
University of Utah, Salt Lake City
Masters in Computing (Specialization in Computing Graphics)
3.9/4.0 Grade Point Average

Undergraduate Studies **2001-2005**
Visveswaraiah Technological University, Belgaum, India
Bachelor of Engineering in Computer Science
3.9/4.0 Grade Point Average

PROJECTS

Interactive Refraction
This project was an implementation of the paper "*An Approximate Image-Space Approach for Interactive Refraction*" by Chris Wyman. Chris Wyman's paper presents an algorithm that allows refraction of a distant environment through two interfaces. GLSL shading language was used implement the refraction concept.

Teeko-Game Design
The aim of the project was to create a two player game called Teeko using C++ language. One user is allowed to play the game with the computer, whose moves are coded using artificial intelligence techniques.

Real Time Ray Tracer
The aim of the project was to build a real time ray tracer using C++ language and Glut for graphical user interface. Concepts like shadows, reflection, refraction, texture mapping and many more things were coded into the ray tracer.

Distributed Memory Parallel Visualization and Rendering
Designed and developed a framework for efficient distributed memory parallel visualization and rendering. The framework uses the aggregate rendering power of a collection of commodity graphics accelerators housed in a cluster of workstations to overcome slow serial interface between the host and graphic subsystem. The project was implemented in C, GLUT, OpenGL & Chromium.

GLPainter
GLPainter is an advanced image manipulation tool. The application allows users to perform tasks, such as Image transformations, Layering, Coloring and much more. The project demonstrates the appropriate usage of OpenGL object transformations, bitmap/outline fonts, blending, masking, keyboard, and mouse gestures.

Analog Clock
Implemented an analog clock utility in OpenGL that supports different view styles. It also provides functionalities, such as alarms support, pop-up messages, and user appointment scheduler.

3D File Explorer
Designed and developed a Windows Explorer like file management utility. This application provides a set of tools to manage user directories, files, photos and calendars. The focus of this project was on Graphical User Interface ethics and appropriate usage of visual controls.

Data Inventory Manager
Developed a database application for inventory maintenance and management for a watch company. In addition to data maintenance, this application provides additional functionality, such as supply chain tracking, report generation, and alarms.

Netflix Recommendation System
The new system aims to provide easier and flexible user interface with better visibility and mapping. The proposed user interface provides better rating and recommendation system which takes genre, demographics, MPAA ratings, rank and rented items into account. The system was developed using Web 2.0 technologies like Ajax and Adobe's Flex development environment.

PUBLICATIONS
Performance based comparative analysis of Web 2.0 based JavaScript libraries [Railto, Dojo, Mochikit, Prototype, GWT, Yahoo UI! etc.]
DASHBOARD: A computational resource monitoring system.

SKILLS
Programming Languages: C, C++, Java, Microsoft Visual C++, Perl, ActionScript.
Operating Systems: Linux, UNIX, Windows XP/NT/2000, Macintosh OS X.
Web Technologies: JSP, Servlets, HTML Authoring, XML, Java Script, Ajax technology, Flash.
Graphics and Visualization: OpenGL, GLSL, GLUT, VTK, FLTK
Others: Flex Builder, Eclipse IDE.

KEYWORDS
Advanced Computer Graphics, Artificial Intelligence (AI), Scientific Visualization, Scientific Computing and Imaging , Human Computer Interaction (HCI), Computer-Aided Geometric design, Advanced Scientific Computation, OpenGL, GLSL, Shader Language, Web 2.0, J2EE, J2SE, Animation. Flex,

REFERENCES
Available upon request.