
Objective

- To obtain a software developer position as an Intern, Coop or a Full-time

Education

M.S., Computer Science and Applications, Virginia Tech , Blacksburg, VA	GPA 3.68	(Expected May 2008)
B.E., Computer Science and Engineering, Anna University , India	GPA 3.67	(Jun 2006)

Work Experience

Graduate Research Assistant, Computer Science, Virginia Tech **(Feb 2006 to present)**

- Implemented a prototype of a 3D game to train doctors of Carilion hospitals under Trauma conditions
- Built an state machine based system using a tree data structure which is driven by XML file to control the scenarios independent of the program logic using a C++ based XML parser
- Developed a simulation manager to Integrate animation systems and game logic system into game engine
- Conducted Usability studies with medical residents to measure the usability of the software through qualitative analysis

Research Assistant, Virginia Center for Coal and Energy Research, Virginia Tech **(Nov 2006 to Feb 2006)**

- Developed a 3D animation of a coal haul truck and a 3D application model using VRML for VT CAVE
- Developed over 40 interfaces and 3D scenarios through APIs to facilitate a demonstration for the customer
- Usability studies with mine workers as subjects to asses learning experience when compared to primitive methods

Intern, Citigroup TI Support and Services, Chennai, India **(Dec 2005 to Feb 2006)**

- Maintained an automation system to deploy patches and perform weekly storage backups
- Monitored and enforced compliance of PCs to corporate security policies
- Conducted regular performance analysis and load balancing of major servers

Computer Skills

Languages	C, C++, C#, Java, SQL, x86 Assembly, HTML, XML, VRML
Tools	MATLAB 6.5, Microsoft Visual Studio 2003 .NET, TinyXML Parser Library, Oracle 8i
Softwares	Adobe Photoshop CS, Macromedia Dreamweaver, OpenGL, Viz3D Version 1.2.2, Autodesk 3DS MAX 8, Final Cut Pro, DIVERSE, Irrlicht game engine, Haptek Programming package, DirectX SDK
Platform	Windows 2000, XP, Fedora Core 6, Suse 10.1

Projects

Graphical Frame Work on a Parallel Computer Architecture (C, OpenMP, OpenGL)

- Implemented a ray tracer on a shared memory architecture and a single core processor
- A significant increase in performance was found to at most 8 processors

Interactive Character Control with Collision Detection (Microsoft Visual Studio 2005, C++, OpenGL, DirectX SDK)

- Implemented an interactive character control system to simulate a first person shooter based experience using game controller
- Developed parsers for reading motion capture data and object files and generated a scene graph structure using BSP tree
- System includes an automatic collision detection and collision avoidance

Benefits of Immersion in Virtual Environments (C++, Flux Studio, VizX 3D, DIVERSE)

- Built an interactive interface to compare a medical procedural training system on Big displays(CAVE) and Desktop computers
- Conducted an Usability study and iterative evaluation of the system showed positive results for training people in the CAVE
- Result has been submitted to IEEE VR 2008 as a 4 – page sketch

3-D Environmental Modeling (MATLAB))

- Designed an algorithm to efficiently evaluate a virtual 3D environment from 2D images
- Modified the Eigen Space algorithm to reduce the memory usage, which resulted in increased performance
- Algorithm was embedded along with a Q-Learning algorithm to initiate an automatic vehicle navigation scheme
- Results have been published in the 4th ACS/IEEE as mentioned below under publication

3D Handler Graphic Systems (Microsoft Visual Studio 2005, C++, OpenGL)

- Designed a system to demonstrate selection-based design (structured graphics)
- Developed an algorithm to Project 2D image onto a 3D topography map

Inventory control system, Horticulture club of Virginia Tech (Microsoft Visual Basic .NET, JavaScript, HTML, Microsoft Access)

- An high fidelity prototype of a system to automate the annual plant sale for horticulture club
- Enhanced the graphical user interface by following an iterative evaluation-centered usability engineering process

Network Monitor and Analyzer ©

- Developed a tool to monitor and manage local network
- Designed and implemented an IP monitoring and Filtering tool to provide network security

Publications

- Ajith Sowndararajan, Naren Athmaraman, "Constructing Precise Geometric Models of Virtual Environments using Image based View Synthesis", *Proceedings of The 4th ACS/IEEE International Conference on Computer Systems and Applications*, Dubai/Sharjah, March 2006
 - Bharadwaj Srinivasan, Ajith Sowndararajan, "Learning a Semi-Autonomous Vehicle Control Scheme for Intelligent Navigation of 3-D Environments", *Proceedings of International Conference of Information and Automation 2005, Sri Lanka*, December 2005
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