

STEVEN OSMAN
resume@terratron.com

- PROFILE A seasoned developer, researcher and former circus performer interested in creating new and exciting technologies for an interactive entertainment organization.
- SUMMARY Creative, dynamic and versatile technologist with excellent communication skills and a 10+-year history of building highly robust and efficient software in multiple industries. Especially skilled in problem solving, critical thinking and analysis and design of systems and technologies. Diverse background that illustrates ability to learn and adapt to new environments, industries and technologies. Seeking a position in an R&D or development team to create and implement state of the art entertainment technology.
- EMPLOYMENT **Carnegie Mellon, Pittsburgh PA** (August 2002 – Present)
Graduate Assistant
- Designed and created an experience that allows children to play games with Honda’s ASIMO robot. Created a two-player game similar to EyeToy Play’s “Mirror Time” and programmed ASIMO to play it and to react to its opponent. Technologies include OpenGL, DirectShow and ASIMO’s SDK.
 - Developed and tested several virtual environments for experiments in locomotion in a headmount display and memory experiments.
 - Developed an interface for real-time motion capture between a Vicon Motion Systems motion capture system (using Tarsus) and UNC’s Virtual Reality Peripheral Network (VRPN).
 - Developed a prototype 3DS Max plugin to export models into the .egg format for Disney’s Panda3D Engine, and MAXScripts to convert c3d mocap data into Character Studio format and to preview it.
 - Teaching assistant for 15-462 Computer Graphics (Fall 2004).
- Network Computing Lab, Columbia University, New York NY** (August 2001-May 2002)
- Worked with a team to design *Zap*, a system that enables migration of unmodified networked and non-networked Linux applications between hosts.
 - Developed a *Zap* prototype as a Linux 2.4 kernel module that required no kernel modification.
- Internet Commerce Corporation, New York NY** (September 1997-January 1999)
Senior Systems Architect
- Designed and developed an Internet-based electronic document interchange (EDI) system, including hardware and software infrastructure, software flow and application design.
 - Contributed to the 99% java back-end that used Microsoft SQL server and created a sophisticated (~500k compressed jar) Java applet for customers to manage large numbers of documents.
- Ringling Brothers and Barnum & Bailey, Vienna VA** (November 1996-September 1997)
Performer – RB³O₂
- Joined the Red Unit’s 127th Edition. Performed in a team of 15 aggressive (i.e. stunt) in-line skaters in 36 cities across the country.
 - Participated in the Three Ring Adventure, which allowed interaction between performers and audience members before the show.
- Razorfish, New York NY** (March 1996-November 1996)
Technologist
- Front and back end website development for customers including Pepsi Max and Simon & Schuster.
 - Created web games and animation applets for Razorfish web sites.
- James Capel, New York NY** (August 1993-March 1996)
Programmer Analyst
- Developed and maintained multiple systems, including a multi-user back-office trade processing system, an electronic fax delivery mechanism, and program trading applications.
- PUBLICATIONS Steven Osman, Dinesh Subhraveti, Gong Su and Jason Nieh, “The Design and Implementation of Zap: A System for Migrating computing Environments”, *Proceedings of the Fifth Symposium on Operating Systems Design and Implementation (OSDI 2002)*, Boston, MA, December 9-11, 2002, pp. 361-376

STEVEN OSMAN
resume@terratron.com

SKILLS

PlayStation 2 Development

Using the Linux Kit for PlayStation 2

- *SVVUDB, Sauce's Visual VU Debugger*: Developed a debugger that debugs both VU0 and VU1 vector units without code modification. Debugs locally or remotely from a Windows or Linux PC, or PS2 Linux. Analyzes GIF packets through *GIF Explorer*. Allows setting GS registers to force the back buffer to be displayed, to observe rendering in progress. Screen shots at <http://terratron.com/ps2linux/>
- *SPS2*: Created a Linux kernel module and support libraries to allow rendering near the PS2's optimal performance, even with the Linux kernel running. Using *SPS2* is the preferred method of the PS2 Linux community and is used in the University of Abertay Dundee's PS2 programming curriculum.
- *GIF Explorer*: Enables a tree view of a GIF packet to quickly debug errors. GIF Explorer has also been integrated into SVVUDB.
- *VUFFT*: Implemented a Fast Fourier Transform for the Vector Units to visualize WAV audio as it plays.
- *GSVNC*: Developed a VNC-compatible server to remotely view the GS frame buffer.

Technology

- Languages: C, C++, Java, Basic, Python, Perl, and 80x86 and PS2 Vector Unit assembly.
- Developed OpenGL applications in C, C++ and Python (using PyGame and PyOpenGL), graphical applications and demos for the PS2, and DirectShow applications for web cam access.
- Developed plugins for 3DS Max using MAX SDK as well as MaxScript scripts.
- Capture, clean and process data using a Vicon Motion Systems motion capture system and incorporate it into 3DS Max or custom applications.
- Data analysis using MATLAB.
- HTML, CGI, JavaScript, java servlet and ASP development.
- TCP/IP, X.25, HTTP, SMTP, DNS, IRC, NNTP, POP, and other communication protocols.
- Experienced in Transact SQL for Microsoft and Sybase SQL server stored procedures and VBA for Microsoft Office applications.

Languages

- Fluent in English and Greek.
- Conversational in French, Japanese and Arabic.

EDUCATION

Carnegie Mellon, Pittsburgh PA (August 2002-December 2004)

Computer Science Department, School of Computer Science

M.S. Computer Science (Anticipated December 2004)

Graduate courses completed:

- Game Design
- Data Driven Character Animation
- Computer Networks
- AI Planning, Execution and Learning
- Optimizing Compilers for Modern Architectures
- Type Systems for Programming Languages

Fall 2004 courses:

- Physically Based Character Animation
- Algorithms in the Real World

Columbia University, New York NY (August 2000-May 2002)

School of General Studies

B.S. Computer Science (May 2002)

- GPA 3.833, Magna Cum Laude
- Dean's List, Fall 2000, Spring 2001, Fall 2001, Spring 2002
- Inducted into School of General Studies Honor Society, April 2002

New York Institute of Technology, New York NY (Fall 1990, 1995, Spring 1999-2000)

Major: Computer Science

- Dean's List, Fall 1990
- Certificate for Academic Achievement, Spring 1999
- President's Honor List, Fall 1995, Spring 1999, Fall 1999, Spring 2000