

STUART POMERANTZ

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Education

- Master of Science, Information Science, University of Pittsburgh, 2000.
- Bachelor of Science, Mathematics, University of Pittsburgh, 1995.
- Bachelor of Arts, Psychology, Pennsylvania State University, 1991.
- Bachelor of Arts, English, Pennsylvania State University, 1991.

Professional Experience

- Aug 2007-Present. R&D Programmer, DreamWorks Animation
 - Next generation interactive display pipeline team. The display pipeline project is a shader-based OpenGL display framework geared toward content creation. It is currently used in DWA's proprietary animation tool and proprietary lighting tool (in development).
- Dec 2000-Aug 2007. Graphics Programmer, Carnegie Mellon University, Pittsburgh Supercomputing Center.
 - Principal Programmer, PSC Volume Browser.
PSC-VB is a cross-platform (UNIX/Windows/Mac OS X), interactive arbitrary-slice 4D volume visualization program implemented using C++/FLTK/OpenGL/sockets/threads. The program uses hierarchical domain decomposition, progressive delivery of data intersecting the desired cutting plane, and a client/server architecture to achieve interactive volume navigation. See publications below. Funded by NLM/NCRR.
 - Co-architect & programmer, PSC Stereo Animation System.
Multi-threaded software plays and synchronizes two MPEG files, one for each eye, for passive stereoscopic viewing. The hardware is built from off-the-shelf components and uses the GNU/Linux OS. Funded by NCRR.
 - *Braincase* parallel volume rendering animation accepted into "best of" Eurographics 2006.
- Dec 1996-Dec 2000. UNIX Systems Administrator, University of Pittsburgh, Department of Mathematics.
Responsibilities included:
 - designing and maintaining two GNU/Linux AFS/Kerberos based computer labs (Total of 90 Nodes) used for research and teaching.
 - managing lab staff.
 - building and maintaining Solaris and HP-UX disk, compute, and print servers.
 - building and maintaining UNIX, Windows, and Macintosh based workstations for faculty and graduate research and staff support (40 Nodes).

Selected Technical Tools

- *Languages:* C, C++, SQL (Oracle, MySQL, sqlite), Python, Perl, Expect, PHP, Bourne shell scripting
- *Libraries:* OpenGL, GLSL, Sockets, POSIX threads, MPI, GLUT, FLTK, QT
- *Tools:* GCC, ICC, Totalview, GDB, GProf, GNU Make, XCode, Visual Studio, Nmake, CGI, L^AT_EX, HTML, CVS
- *Systems Software:* Apache/SSL, Secure Shell, PGP, INNd, Sendmail, tcp wrappers, iptables
- *OS:* SunOS, Solaris, HP-UX, IRIX, Tru64, GNU/Linux, Windows, Mac OS X

Publications

- Casanova, H, Bartol, T, Berman, F, Birnbaum, A, Dongarra, J, Ellisman, M, Faerman, M, Gokcay, E, Miller, M, Obertelli, G, Pomerantz, S, Sejnowski, T, Stiles, J, and Wolski, R. 2004. The Virtual Instrument: Support for Grid-enabled MCell Simulations. *Intern. J. High Performance Computing Applications* 18:3-18.
- Wetzel, A.W., Nieder, G.L., Durka-Pelok, G. Gest, T.R., Pomerantz, S.M. Nave, D., Czanner, S., Wagner, L., Shirey, E., Deerfield II, D.W.. 2003. Photo-Realistic Representation of Anatomical Structures for Medical Education by Fusion of Volumetric and Surface Image Data *Proceedings of 32nd Applied Imagery and Pattern Recognition Workshop: Image Data Fusion, Oct 15-17 2003, Washington DC, IEEE Computer Society Press, pp 131-138.*
- A.W. Wetzel, S.M. Pomerantz, D. Nave, A. Kar, J. Sommerfield, M. Mathis, D.W. Deerfield II, F.L. Bookstein, W.D. Green, A. Ade, B. Athey, "A Networked Environment for Interactively Viewing and Manipulating Visible Human Datasets", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- S.M. Pomerantz, A.W. Wetzel, D. Nave, D.W. Deerfield II "A Natural Plane Anatomical Segmentation Interface", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- D. Nave, S. M. Pomerantz, A. W. Wetzel, D. W. Deerfield II "Semi-Automated Reconstruction of Biological Surfaces from Few Contours in the Visible Female Dataset", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- T. Weymouth, G. Durka-Pelok, T. Gest, J. Huang, S.M. Pomerantz, A.W. Wetzel, C. Burger, B. Athey, "Using a Knowledge Base: The University of Michigan Visible Human Project", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- G. Durka-Pelok, S.M. Pomerantz, C. Gadd, T. Weymouth, T. Gest, J. Huang, D. Nave, A.W. Wetzel, S. Lee, B. Athey "Evaluation of a Volume Browser: PSC-VB", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- G. Durka-Pelok, T. Gest, G. Nieder, T. Weymouth, Jie Huang, A.W. Wetzel, S.M. Pomerantz, D. Nave, B. Athey, "Creation of an educational visual module: integration of QTVR and the Visible Human Data Set", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- G. Durka-Pelok, T. Weymouth, T. Gest, S.M. Pomerantz, D. Nave, A.W. Wetzel, S. Lee, B. Athey, "Bookmarking the Visible Human Dataset", *Proceedings of the 4th Visible Human Conference, Keystone, Colorado, Oct 17-19, 2002.*
- Wetzel, A.W., Pomerantz, S.M., Nave, D., Meixner, W., Johnson, A. *Distributed Multiuser Visualization of Time Varying Anatomical Data 30th AIPR Workshop: Analysis and Understanding of Time Varying Imagery, Oct 10-12 2001, Washington DC, IEEE Computer Society Press, pp 109-114*
- Wetzel, A.W., Badea, C.T., Pomerantz, S.M., Mistry, N., Nave, D., Johnson, G.A., "Measurement and modeling of 4D live mouse heart volumes from CT time series", *Proceedings Vol. 6491, SPIE Videometrics IX, Jan 29, 2007.*

Teaching Experience

- University of Pittsburgh, Department of Information Science, INFSCI 2780 Interactive Graphics, Summer 2007.
- PSC, MARC Bioinformatics workshop, Introduction to Python, 2007.
- PSC, MARC Bioinformatics workshop, Introduction to Perl, 2003-2006.
- University of Pittsburgh, Department of Computer Science, CS 1566 Graphics, Fall 2004.
- University of Pittsburgh, Department of Information Science, INFSCI 2780 Interactive Graphics, Fall 2001.

References

- As a courtesy to my references I provide them upon request.