Alvin Law

Current Address: 307 Montifiore Street Apt. 216 • Lafayette, IN 47905 • (585) 202-9767
Permanent Address: 27 Valewood Run • Penfield, NY, 14526 • (585) 381-4432
E-mail: ajlaw@cs.purdue.edu

Education

Purdue University, West Lafayette, IN
Ph.D. Candidate in Computer Science, expected 2010 (current GPA 3.60)
Coursework in computer graphics and visualization, algorithm design and analysis, operating systems, networks, numerical linear algebra, compilers, data mining.

Cornell University, Ithaca, NY
B.S. in Computer Science; Minor in Electrical and Computer Engineering, May 2005

Graphics Projects

Gorched: game written using Cg and OpenGL libraries; graphics features include frustum culling, terrain generation and deformation, particle systems via billboarding, bump mapping, environment mapping, and reflections.

Ray Tracing: Monte Carlo ray tracer on sphere, box, and triangle primitives with a kd-tree, pixel anti-aliasing, reflections, global illumination, and photon mapping. Some volume rendering for 3D visualizations as well.

Fluid Simulator: fluid simulator using Sphere Particle Hydrodynamics, fluid contained in a box using mirror particles for boundary forces.

Physically-Based Modeling: a physically based model for rendering smoke phenomena. Model includes wavelength dependent scattering effects.

3D Model Acquisition and Completion: see research experience for details.

Virtual Restoration Stage: see research experience for details.

Research Experience

Purdue University Computer Graphics and Visualization Lab Research Assistant
Purdue University, West Lafayette, IN, May 2007 – present
Responsibilities: exploring ways to exploit symmetric features of objects, such as for 3D model acquisition and completion. Also involved in a virtual restoration project to visually alter the appearance of deteriorated objects.

Purdue University Rendering and Perception Lab Research Assistant
Purdue University, West Lafayette, IN, May 2006 – August 2006
Responsibilities: analyzed performance of PRIME, a weather visualization tool, updated webserver to accept different rendering requests.

Computer Graphics Independent Research Assistant
Cornell University, Ithaca, NY, September 2004 – December 2004
Responsibilities: implemented Heeger and Bergen's 1995 paper *Pyramid Based Texture Analysis/Synthesis*.

Advanced Computer Architecture Laboratory Research Assistant
University of Rochester, Rochester, NY, Summer 2002
Responsibilities: analyzed research value of various benchmarks in Minne SPEC by simulating shortened benchmarks from the SPEC 2000 dataset including compression agents, database tasks, and word processing tasks.

Work Experience

Computer Science Teaching Assistant for Introduction to Programming
Purdue University, West Lafayette, IN, August 2005 – present
Responsibilities: taught recitation section, created programming projects, graded assignments and tests.

Software Engineer Intern
Google, Mountain View, CA, Summer 2008
Responsibilities: involved in graphics related work for Google Earth.

Software Engineer Intern
Autodesk, Portland, OR, Summer 2005

Responsibilities: expanded image support for saving images, loading textures, and loading backgrounds.

Publications

D. Aliaga, A. Law, and Y. Yeung. 2008. A Virtual Restoration Stage for Real-World Objects. *Proceedings of ACM SIGGRAPH Asia 2008*, ACM Transactions on Graphics, 27, 5.

A. Law, D. Aliaga, Y. Yeung, R. McCoy, A. McKune, and L. Zimmerman. 2009. Projecting Restorations in Real-Time for Real-World Objects. In J. Trant and D. Bearman (eds). *Proceedings of Museums and the Web*. Toronto: Archives & Museum Informatics. Published March 31, 2009. (http://www.archimuse.com/mw2009/papers/law/law.html)