

Micah Taylor

Sitterson Hall, CB #3175
Chapel Hill, NC 27599
317.523.5491
<http://www.kixor.net/>
taylormt@cs.unc.edu

Research interests:

Interactive sound propagation : Realtime ray tracing : Visibility & rendering

Education:

- University of North Carolina, Chapel Hill
MS - Computer Science, expected 2010
PhD - Computer Science, expected 2012
 - Rose-Hulman Institute of Technology
BS - Computer Science, 2004
Technical Translator in German, 2004
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Work experience:

- University of North Carolina, Gamma group 2007 - Present
Research Assistant
 - Designed interactive [acoustic simulation](#) with diffuse, specular, and diffraction components
 - Developed [diffraction tracing](#) using real-time ray frustum tracer
 - Worked with teams to create other fast [acoustic simulations](#).
- Experian - Baker Hill, Carmel, IN 2004 - 2007
Software Engineer
 - Served as lead designer on critical path projects for major [products](#)
 - Developed tools to automate refactoring of over 50,000 lines of code
 - Designed and implemented automatic build and deploy process across multiple platforms and devices
- Senior Year Project for Sagian, RHIT 2004
Project Manager
 - Planned team direction and goals
 - Assigned and managed sub-teams
 - Worked with team leaders to complete artifacts
- Integral Technology, Indianapolis, IN Summer 2003
Intern for Hardware Department
 - Built cross platform Unix/Windows program to test hardware
 - Worked on extension of LinuxBIOS project
 - Maintained Linux NFS server
- Integral Technology, Indianapolis, IN Summer 2002
Intern for Sales
 - Implemented web version of support applications
 - Designed and implemented interactive sales demos

Teaching experience:

- University of North Carolina, Advanced Image Synthesis, Fall 2008
Teaching Assistant
 - Implemented Wavefront OBJ loader for ray tracing scenes
 - Graded assignments and tested assignment softwares
- University of North Carolina, Computer Architecture, Fall 2007
Teaching Assistant
 - Conducted reviews of classroom materials
 - Held office hours and graded assignments
- Hancock County Public Library, Greenfield IN Summer 2003
Volunteer
 - Prepared and taught basic Java programming class
 - Handled lab setup and student questions
- Hancock County Public Library, Greenfield IN 1999 - 2000
Volunteer
 - Taught basic Internet skills class
 - Worked with students on example internet use
 - Tutored basic computer use

Skills:

- Programming
C, C++, Javascript, PHP, VB6, C#, MATLAB, Java, SQL, Scheme
- APIs & Tools
OpenGL, C++ STL, SDL, Blender, Final Cut, Audacity, Apache, Git, Bash

Projects:

- Implemented platform independent [realtime ray tracer](#). Supports multiple hierarchy structures, split-selectors, shaders, and post-processing.
- Designed and implemented [fast motion](#) blur effects using sample reprojection. Generates similar results to stochastic motion blur at a fraction of the cost.
- Maintain and host my [personal webpage](#). Custom code and design with database backend and light frontend.

Publications:

- Micah Taylor, Anish Chandak, Lakulish Antani, Dinesh Manocha, [RESound: Interactive Sound Rendering for Dynamic Virtual Environments](#), 17th International ACM Conference on Multimedia, 2009
- Anish Chandak, Lakulish Antani, Micah Taylor, Dinesh Manocha, [FastV: From-point Visibility Culling on Complex Models](#), 20th Eurographics Symposium on Rendering, 2009
- Micah Taylor, Anish Chandak, Zhimin Ren, Christian Lauterbach, Dinesh Manocha, [Fast Edge-Diffraction for Sound Propagation in Complex Virtual Environments](#), EAA Symposium on Auralization, 2009
- Anish Chandak, Christian Lauterbach, Micah Taylor, Zhimin Ren, Dinesh Manocha, [AD-Frustum: Adaptive Frustum Tracing for Interactive Sound Propagation](#), IEEE Transactions on Visualization and Computer Graphics, 2008