

SPENCER MILLER

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EDUCATION

University of Pennsylvania

- **School of Engineering and Applied Science.** Bachelor of Science in Engineering [December 2008]
- **Major:** Digital Media Design
- **Coursework:** Physically Based Animation, Graphics Programming, 3D Modeling, 3D Animation, Algorithms, Web Design, Linear Algebra, Cinema Production

WORK EXPERIENCE

Dreamworks Animation: *Production Engineer Intern [Summer 2008]*

Created an API for internal software. Written in C++, this software was a system for creating and managing a dependency graph structure. Its primary application at the studio was to direct the flow of rendering for any given shot sequence – for example, if one element depends on another element, that other element will be handled first. My task was to expose much of this graph logic to external callers, allowing procedural generation of these graphs by languages other than the one in which it was written (for example, Python and Perl scripts can now use the API to generate graphs). Code base written in C++, unit tests written in Python.

United States Liability Insurance: *Intern [Summer 2006]*

Performed database management for insurance renewals. Much of this job involved rounding up expired policy information and presenting it in an accessible format in the company's database.

ACTIVITIES

Teaching Assistant [Fall-Winter 2008]

In the fall semester of 2008 I acted as a teaching assistant for Penn's CIS-110, an introductory programming course. Responsibilities include grading exams, writing unit testers to evaluate student homework submissions, holding office hours to answer student's questions, and teaching one weekly recitation.

Penn SIGGRAPH [2007-2008]

Worked on rigging a human character for the animation "Ben's Short". Experimented with FK/IK blending and optional pole vector switches in the rig.

Information Technology Advisor [2004-2008]

Information Technology Advisors (ITAs) provide technical support to residents of student dorms. The job requires a high level of technical competence with popular operating systems and software packages (almost always windows or mac software), as well as personal skills for interacting with customers.

NOTABLE PROJECTS

Programming

'Sprout' (Nintendo DS Game): Player nurtures a plant species' genetic growth to withstand an increasingly dangerous environment (C++, PALib DS development library)

Smoke Simulation: Grid based smoke simulation in a 3D environment. (C++)

Limited Resource Simulation: Symbolic actors fight over food and water in 3d space (Java)

OpenGL Ray Tracer: Allows for manipulation of 3D objects in a virtual space. After objects are placed, user can generate a ray traced image of scene. (Java)

Animation (Maya)

'Recuriosity':

- Modeled, rigged (FK/IK), and animated a bipedal character
- Created and animated a set driven key enabled environment
- Textured and lit scene

'Ollie':

- Animated character movement and lip synchronization.

SKILLS AND INTERESTS

Software: Maya, Flash, Adobe Photoshop, After Effects, Dreamweaver, ZBrush

Languages: Java, C++, Python, some Actionscript, Javascript

Interests: Video gaming, animating, programming, modeling, mischievous Photoshopping