Eric McDaniel

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Research interests

My research is focused on techniques for the creation and simulation of realistic virtual environments. I am particularly interested in visibility, lighting, and shadow generation in dynamic environments. Currently, I am exploring methods for the simulation and display of high dynamic range scenes on commodity hardware. My long term goal is to facilitate the construction of virtual spaces, which more accurately capture the dynamic nature of reality.

Education

- **University of Wisconsin-Madison**, Madison, WI.
  Pursuing Ph.D. in Computer Graphics, December 2002 – Present.
  M.S. in Computer Sciences, December 2002.
- **University of Wisconsin-Oshkosh**, Oshkosh, WI.
  B.S. in Computer Sciences (GPA 3.28), May 2000.
- **University of Wisconsin-Whitewater**, Whitewater, WI.
  Computer Science courses completed during senior year of high school (GPA 4.0), September 1995 – May 1996.

Work experience

- **Research Assistant**, University of Wisconsin-Madison, May 2002 – Present.
  Research Assistant for Professor Stephen Chenney. Developed system for constraint-based animation of agents in flocks or herds utilizing Markov chains. Developed method for optimizing shadow volume rendering in structured interior environments. Work in progress: practical methods for rendering of high dynamic range virtual environments.
- **Teaching Assistant**, University of Wisconsin-Madison, September 2000 – May 2002.
  Courses: Introduction to Computers, Computer Graphics, Rendering Images with Computers, Computer Game Technology

Publications

- **Shadow Volume Acceleration for Structured Environments**. (with Stephen Chenney) Submitted to Eurographics 2005, February 2005.
- **Constrained Animation of Flocks**. (with Matt Anderson and Stephen Chenney) Eurographics/SIGGRAPH Symposium on Computer Animation 2003.

Skills

- **Programming Languages** C, C++, Java, Python, x86 assembly
- **Graphics APIs/Languages** OpenGL, Cg, GLSL, vertex/fragment shader assembly

References

Professor Stephen Chenney
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