

# Matthew Boggus, Ph.D. Candidate

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**Objective:** To be a scholar and teach computer science, graphics, and games.

**Interests:** Computer graphics (modeling, animation, illumination, and rendering), computer and board games, procedural world creation and evaluation, automated and computer assisted level design, artificial intelligence, and human computer interaction.

## Education:

**Ph.D. Computer Science and Engineering**, Expected by Spring 2012.  
*The Ohio State University*

**B.A. Computer Science, Mathematics**, 2006.  
*Hiram College*

## Teaching Experience:

### Teaching Assistant

**CSE 105 Instructor** – Computer-Assisted Problem Solving for Const. Mgmt. **Fall 2011 – Present**

**CSE 101 Instructor** – Computer-Assisted Problem Solving **Fall 2009 – Spring 2011**

**CSE 200 Lab Instructor** – Computer-Assisted Problem Solving for Business **Summer 2009**

*The Ohio State University, Department of Computer Science and Engineering*

- Lecture classes and run in-class activities for approximately forty students on topics such as binary searches in database tables, calculating compound interest, and Boolean logic.
- Run lab activities including setting up a spreadsheet for yearly budgeting and introductions to Excel formula writing and Access tables, queries, forms, and reports.
- Grade homeworks, labs, projects, and exams.
- Hold four office hours per week.
- Answer student questions via email and online bulletin board systems.
- Coordinate makeup assignments with students and teaching assistants.
- Train lab consultants in methods to assist students in lab and grading processes.
- Train new instructors in classroom and lab management, grading, and addressing student concerns and questions.
- Assist in development and review of course materials including homeworks, labs, exams, projects, and lecture notes.

**Computer Graphics Junior Project Lead Course Designer** **Summer 2009 – Present**

*The Ohio State University, Department of Computer Science and Engineering*

- Responsible for selecting reading and reference materials, programming language and toolsets, and class format.
- Coordinate with faculty designing other junior project courses to establish standard learning objectives and outcomes such as maturity in programming.
- Develop course materials including the syllabus, schedule, project guidelines, and software documentation.
- Attend Ohio State University events on teaching such as The Academy of Teaching: Fourth Annual Mini-Conference on Teaching in Fall 2010.

**Preparing Future Faculty Fellow** **Fall 2010 – Spring 2011**

*The Ohio State University, Graduate School*

- Participated in peer discussions and workshops with thirty OSU graduate students in multiple disciplines on preparing for a career in academia.
- Attended the Kenyon faculty panel on faculty roles and responsibilities: teaching at undergraduate institutions.
- Attended a Denison faculty conference on integrating research into teaching.
- Attended the OSU University Center for the Advancement of Teaching (UCAT) Course Design Institute (Winter 2011) and worked on development of a computer game project course in addition to reviewing new and redesigned courses by faculty and graduate students.
- Mentored by Dr. Joan Krone of Denison University.

**Teaching Assistant** **Fall 2007 – Spring 2009**

**CSE 221 Instructor** – Software Component Engineering

*The Ohio State University, Department of Computer Science and Engineering*

- Lectured classes and ran in-class activities for forty students on topics such as arrays, linked lists, and binary trees.
- Ran lab activities on topics including debugging, encryption, and file input and output.
- Graded homeworks and exams.
- Trained graders in working with students in lab and grading activity worksheets.
- Mentored new instructors by giving teaching advice and performing teaching observations.
- Assisted in writing and review of exams.

**Writing Assistant** **Fall 2003 – Spring 2006**

*Hiram College Writing Center*

- Proofread and performed peer review of undergraduate level academic papers in many different fields of study including the sciences, social sciences, arts, and humanities.
- Mentored new Writing Assistants by demonstrating peer reviews, discussing the peer review process, and observing and providing feedback on their peer reviews.

**Publications:**

**Conference Proceedings:**

Matt Boggus and Roger Crawfis. Distance Field Illumination: a Rendering Method to Aid in Navigation of Virtual Environments. In Proceedings of the 6<sup>th</sup> International Symposium on Visual Communication, November 2010, 501-510.

Matt Boggus and Roger Crawfis. Prismfields: A Framework for Interactive Modeling of Three Dimensional Caves. In Proceedings of the 6<sup>th</sup> International Symposium on Visual Communication, November 2010, 213-221.

Matt Boggus and Roger Crawfis. Distance based illumination as a navigational aid. In Proceedings of the 2010 ACM SIGGRAPH Symposium on interactive 3D Graphics and Games (Washington, D.C., February 19 - 21, 2010), I3D '10, ACM, New York, NY, 1-1 (Poster).

Matt Boggus and Roger Crawfis. Explicit Generation of 3D Models of Solution Caves for Virtual Environments. In Proceedings of the 2009 International Conference on Computer Graphics and Virtual Reality, Las Vegas, NV, July 2009, 85-90.

Matt Boggus and Roger Crawfis. Procedural Creation of 3D Solution Cave Models. In the 20th IASTED International Conference on Modelling and Simulation, Banff, Alberta, July 2009, 180-186.

### **Technical Reports:**

Matt Boggus and Roger Crawfis. Procedural Creation of 3D Solution Cave Models. Tech. Report OSU-CISRC-5/09-TR19.

Matt Boggus and Roger Crawfis. Explicit Generation of 3D Models of Solution Caves for Virtual Environments. Tech. Report OSU-CISRC-5/09-TR18.

Matt Boggus and Roger Crawfis. Modeling Dynamic 3D Caves. Tech. Report OSU-CISRC-8/08-TR43.

### **Works in Progress:**

Matt Boggus and Roger Crawfis. Automated Spatial Analysis of Game Levels.

## ***Professional Activities and Service:***

### **Graduate:**

Member: ACM and ASEE

Guest Lecture: Denison University Faculty and Student (FaSt) talk (2010)

Graduate representative on Faculty Meetings committee (2009)

"Stereo Graphics at Ohio State" – demonstration for COSI Student Camp's OSU Visit (2008)

Graduate student panel member for prospective graduate student visits (2007 – 2011)

Reviewer, *International Symposium on Visual Computing (ISVC)* 2011

Reviewer, *Computer Animation and Social Agents (CASA)* 2007

Reviewer, *Computer Graphics International (CGI)* 2007

### ***Awards and Honors:***

2010 – Upsilon Pi Epsilon honor society

2006 – Ohio State University Presidential Fellowship

2006 – Computer Science Outstanding Senior Award

B.A. Magna cum laude and Computer Science departmental honors