

# STEPHEN ROLLER

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## PUBLICATIONS

### Research Abstracts:

Roller, S. and Young, R. M., EarthView: Using the Unity3D Game Engine to Visualize Packet Sniffing, in Eighth Annual North Carolina State University Research Symposium, pp. 71. Raleigh, NC. July 30, 2009.

## RESEARCH EXPERIENCE

### Independent Research & Honors Thesis

Raleigh, NC. 08/2009 – 12/2009

- Worked with a M.S. student to create Afterthought, a system for showing cinematic summaries of Unreal Tournament 3 matches, much like an ESPN “highlights” sequence for online video games.
- Researched and developed a “narrative pattern matcher,” a program used for finding high-level story structures in game logs.
- Advised by Dr. R. Michael Young.

### Summer REU at NCSU

Raleigh, NC. 06/2009 – 08/2009

- Participated in Design Tech, an NSF funded program hosted at NC State.
- Created a network visualization tool using Unity3D that displayed real-time network information, such as volume and physical destination of data.
- Worked with design and CS students from across the US.

### Research Assistant

Raleigh, NC. 01/2009 – 05/2009 and 08/2009 – Present

- Evaluated Unity3D as a game development platform for internal use within the Digital Games Research Center at NC State University.
- Advised by Dr. R Michael Young.

## EDUCATION & HONORS

### Bachelors of Science in Computer Science

North Carolina State University. Raleigh, NC. 08/2006 – 05/2010

- GPA: 4.0/4.0
- Graduating Valedictorian with CSC Honors
- Recipient of Computer Science Senior Award for Scholarly Achievement 2009-2010
- Recipient of the Northrop Grumman Scholarship, 2008 – 2009
- Member of Phi Kappa Phi Honor society
- Member of Golden Key Honor society
- Member of the HASTAC Scholars community, 2009 – 2010

### Study Abroad at Manchester Metropolitan University

Manchester, UK. 09/2008 – 12/2008

- Spent one semester studying abroad at Manchester Metropolitan University.
- Attended classes in Artificial Intelligence, Database Engineering and History of Film.

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## PROFESSIONAL EXPERIENCE

### **Bathysphere: An Interactive and immersive virtual environment**

*Chapel Hill, NC. 02/2010*

- Part of the CHAT digital humanities festival at University of North Carolina at Chapel Hill.
- Virtual world projected onto three walls and the floor, making for a highly immersive, augmented reality.
- Motion capture technologies used to control characters in the virtual environment based on movements of physical objects.
- For more information, visit <http://www.chatfestival2010.com/bathysphere.html>.

### **Tenniscor.com, Inc.**

*Raleigh, NC. 05/2006 – 08/2008*

- Led a team of 3 developers to create a tennis social networking site.
- Developed social networking and tennis league management software using modern web technologies, including PHP, Python, MySQL and Amazon EC2.
- Flagship product used by more than 250,000 tennis players in nearly 100 leagues throughout the US and Canada.
- Installed, managed and administered two Linux servers.

## VOLUNTEER & COMMUNITY SERVICE

### **Token Energy Club & The PackPulse Project**

*Raleigh, NC. 01/2009 – Present*

- Worked with two other students to initiate and execute a student-led effort to raise energy awareness at NC State University.
- Created a Flash-based slideshow displaying real-time electricity usage information about several NC State dormitories and academic buildings.
- Work is on display in 12 public places and buildings on campus.
- Project has since expanded to involve over 12 students in different disciplines.
- To see the real-time slideshow, visit [www.packpulse.com](http://www.packpulse.com).

### **World Camp for Kids Volunteer**

*Ahmadabad, India. 06/2008 – 08/2008*

- Volunteered for 5 weeks in Ahmadabad, India, to teach and hold discussions with 13-17 year olds about HIV, nutrition and social justice issues.

### **Shack-a-thon Volunteer**

*Raleigh, NC. 09/2007 and 09/2008*

- Participated in an annual community service project at NC State University where students erect shanty houses on campus to raise money for Habitat for Humanity.