

Wesley N. Griffin

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RESEARCH INTERESTS

Exploring how continuing advances in graphics hardware can be exploited to solve new and existing problems in offline and real-time computer graphics. I am currently researching variable bit rate texture compression, real-time decompression, and objective color image quality assessment.

EDUCATION

February 2010 – Present	Ph.D. student in Computer Science, University of Maryland, Baltimore County Advisor: Dr. Marc Olano. My research is exploring variable bit rate texture compression, real-time decompression, and objective color image quality assessment.
December 2010	M.S. in Computer Science, University of Maryland, Baltimore County <i>Real-time GPU Surface Curvature Estimation.</i> My thesis presents a new parallel algorithm on the GPU for estimating surface curvature in real-time on deformable models and interactively tunable isosurfaces.
May 2007	B.S. <i>summa cum laude</i> in Computer Science, University of Maryland University College

PUBLICATIONS

Olano, M. Baker, D. Griffin, W., Barczak, J. 2011. Variable Bit Rate GPU Texture Compression. In *Proceedings of the Eurographics Symposium on Rendering*, Eurographics.

Griffin, W., Wang, Y., Berrios, D., and Olano, M. 2011. Real-time GPU Curvature Estimation. Submitted *IEEE Transactions on Visualization and Computer Graphics*, IEEE.

Griffin, W., Wang, Y., Berrios, D., and Olano, M. 2011. GPU Curvature Estimation on Deformable Meshes. In *Proceedings of the 2011 ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*, ACM. **Best Paper Honorable Mention.**

Das, K., Bhaduri, K., Arora, S., Griffin, W., Borne, K., Giannella, C., and Kargupta, H. 2009. Scalable Distributed Change Detection from Astronomy Data Streams using Local, Asynchronous Eigen Monitoring Algorithms. In *Proceedings of the 2009 SIAM Data Mining Conference*.

SERVICE

External Reviewer, 2011 ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D)
Founder, UMBC Association of Computing Machinery (ACM) Student Chapter (Spring 2009)
Chair, UMBC Association of Computing Machinery (ACM) Student Chapter (2009 - 2011)
Student Representative Computer Science Graduate Committee (2009 - 2010)
Computer Science GSA Senator (2009 - 2010)

PROFESSIONAL EMPLOYMENT

February 2010 – Present	Graduate Research Assistant, VANGOGH Lab, UMBC, Baltimore, MD <i>Video Processor for Panoramic Head-Mounted Display.</i> Research that is developing and adapting 2D and 3D applications to render large resolution frames that can be resampled by a firmware video processor for display on a tiled head-mounted display. The resampling algorithm was developed and tested on a GPU-based test bench and a user study is being undertaken to validate the algorithm.
May 2011 – August 2011	Temporary Graphics Programmer, Firaxis Games, Sparks, MD
August 2009 – January 2010	Graduate Teaching Assistant, UMBC, Baltimore, MD
June 2008 – June 2009	Graduate Research Assistant, VANGOGH Lab, UMBC, Baltimore MD <i>Interactive Visual Methods for Partitioning Multidimensional Spatial Data.</i> Research focused on developing decision support tools for the problem of school redistricting. Worked with the Howard County Public School System to develop tools that aid in generating, evaluating, and comparing alternative school assignment plans.

December 2007 – August 2008

Graduate Research Programmer, DIADIC Lab, UMBC, Baltimore MD

Researched distributed data mining techniques for large astronomy data sets. Developed and maintained a Distributed Data Mining Toolkit in Java. Performed experiments for a wireless outlier detection algorithm.

May 1997 – January 2009

Research Scientist, SPARTA, Inc., Columbia, MD

Developed and maintained a large Java application ($\approx 50,000$ SLoC). Modeled real-world DNS infrastructure in the DETERlab Testbed. Participated in the development of the DNS Security Extensions in the Internet Engineering Task Force (IETF) DNSEXT Working Group.

AFFILIATIONS

Association of Computing Machinery (ACM) (2007) & SIGGRAPH (2009)

Institute of Electrical and Electronics Engineers & Computer Society (IEEE/CS) (2007)

American Association for the Advancement of Science (AAAS) (2008)

Society for Industrial and Applied Mathematics (SIAM) (2008)

International Game Developers Association (IGDA) (2007)