

Todd D. Keeler

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Degrees

- Ph.D. Computer Science, University of British Columbia, Jan 2012 - September 2017
- M.Sc. Applied and Computational Mathematics, Simon Fraser University, September 2005 - September 2007 (Completed December 2011)
- Ph.D. Applied and Computational Mathematics, Simon Fraser University, September 2007 - August 2011 unfinished
- B.Sc. Specialization in Computational Science (Math), University of Alberta, 2005
- B.Sc. Specialization in Physics, University of Alberta, 2004

Selected Experience

- November 2015 - Present, Software Engineer at Double Negative:
Optimizing and Maintaining Ocean and Water simulations for Visual Effects
Developed and Open-Sourced the Openvdb Potential Flow tool - Presented at SIGGRAPH 2017
<https://tinyurl.com/y8peje2t> (github.com)
- March - Oct 2015, Contracting for the University of British Columbia:
commercialization of automatic hexahedral mesh generating software
- August 2013 - Dec 2014, Contracting for Nome Consulting:
cloud based high throughput network debugging and development for large scale applications using the Go programming language (golang.org)
- November 2012 - September 2013, Microsoft Studios:
commercialization of mesh based smoke effects for computer games; research on surface based wave dynamics for fluid animation
- September 2007 - September 2010, Radical Entertainment:
Industrial Internship Awards, researching real-time smoke simulations for computer games.

Selected Publications

Ocean Waves Animation using Boundary Integrals and Explicit Mesh Tracking
Todd Keeler and Robert Bridson, ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2014 - Best Technical Paper Award

Linear-Time Smoke Animation with Vortex Sheet Meshes
Tyson Brochu, Todd Keeler, and Robert Bridson, ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2012

The Spherical Visibility Map
Todd Keeler, John Fedorkiw, and Sherif Ghali, Computer-Aided Design, Volume 39, Issue 1, January 2007, Pages 17-26

Ph.D. Thesis *Surface Based Fluid Animation: Simulation and Compression*

M.Sc. Thesis *An integral equation method for solving Laplaces equation with Robin boundary conditions*

Skills

Significant Experience:

Modern C++, GPU Computing (OpenCL), Python, Linux, OpenVDB, OpenGL, Conversant French, Communication, Teaching, Writing (Technical and Prose)

Plugin Writing Experience

Houdini, Clarisse, Maya

Familiar With:

Go, Visual Studio, Perforce, Git, Svn, Qt, Javascript, Node.js, Django, Perl, MPI, Supervising